"YELLOW RAIN"

HEARING

BEFORE THE

SUBCOMMITTEE ON ARMS CONTROL, OCEANS, INTERNATIONAL OPERATIONS AND ENVIRONMENT

OF THE

COMMITTEE ON FOREIGN RELATIONS UNITED STATES SENATE

NINETY-SEVENTH CONGRESS

FIRST SESSION

ON

"YELLOW RAIN" AND OTHER FORMS OF CHEMICAL AND BIOLOGICAL WARFARE IN ASIA

NOVEMBER 10, 1981

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"YELLOW RAIN"

TUESDAY, NOVEMBER 10, 1981

U.S. SENATE,
SUBCOMMITTEE ON ARMS CONTROL, OCEANS,
INTERNATIONAL OPERATIONS AND ENVIRONMENT
OF THE COMMITTEE ON FOREIGN RELATIONS,
Washington, D.C.

The subcommittee met, pursuant to notice, at 2:04 p.m., in room 4221, Dirksen Senate Office Building, Hon. Larry Pressler (chairman of the subcommittee) presiding.

Present: Senator Pressler.

The CHAIRMAN. I now call this hearing of the Arms Control Subcommittee to order. Other members of the committee have indicated that they will be present, but since this is an afternoon when people are scrambling to get to airplanes and other means of transportation to get home for the brief holiday recess, we had better begin.

We will be hearing from a variety of witnesses today. I must say at the outset that we must place a limit on the time of both witnesses and Senators.

Let me suggest that our first panel of witnesses come up to the witness table. I see my colleague, Congressman Jim Leach, has arrived, and I would ask him to take a seat in the center of the table.

Before hearing the prepared testimony, both Senator Cranston and I have opening statements.

Today we will hear testimony from the administration and public witnesses on allegations that chemical and biological warfare are being used in Laos, Cambodia, and Afghanistan. These allegations have circulated for some years, and this subcommittee will hold hearings to try to get to the bottom of the matter.

Let me say that there is much disagreement over the validity of the evidence, and we must proceed with caution.

From what we have read of these allegations of chemical and biological warfare, many of us, for different reasons, hope that they are untrue. We must not, however, allow our preconceptions and biases to interfere with our examining the evidence in an objective manner.

Allegations that the Soviets are using or supplying new and terrible poisons or toxins for the purpose of exterminating their enemies are thoroughly frightening. They are frightening because a new weapon may have joined an already terrifying arsenal of world weaponry, and one that unscrupulous nations and even terrorist groups may acquire without great effort.

It is also frightening in a general sense that vicious fighting of any kind continues against the Laotians, Cambodians, and Afghans, who are justly struggling against the yoke of foreign and domestic oppressors.

I am pleased to learn that representatives of the Afghan Freedom Fighters are in the room today. I deeply hope that what is said and done today will help focus world opinion on the plight of these peoples.

The implications of what we hear today and in any future hearings on this subject will have profound influence in respect to arms control. The allegation that mycotoxins, generally described as "yellow rain," are being used against the peoples of Laos, Cambodia, and Afghanistan, if it can be proved, would represent a clear breach of the Geneva Protocol of 1925, the Biological Weapons Convention of 1972, and customary international law. It would call into question the advisability of signing any arms control treaty that did not have strict verification provisions. In a broader sense, it would open the troublesome question of international enforcement provisions against nations that violate international law.

These hearings and the United States must determine whether or not chemical and/or biological weapons were used in Asia, who used them, who provided the munitions, what course of action to take if the evidence seems credible, and to weigh the implications of any violation of the Geneva Protocol on Chemical Warfare of 1925 and the Biological Weapons Convention of 1972, or other aspects of arms control.

I shall not read my entire prepared statement in the interest of time but without objection I will insert it in the record. I shall ask the the witnesses perhaps to do likewise. In fact, I will place an 8-minute limitation on witness statements. In the House of Representatives, we used to have a 5-minute limitation. Members of a panel may wish to allocate their alloited time in some other way, perhaps pool it for the presentation of one longer statement. If we are to hear all of the witnesses and see some of the evidence, we must move along quickly. The ability to summarize in 8 minutes will be very much appreciated and will leave time for our questions.

Of course, any additional statements may be submitted for the record.

Let me say also that tomorrow is Veterans' Day, and as a Vietnam veteran, I have long been concerned with the effects of agent orange. Although there is no relationship between agent orange, a herbicide, and biological and chemical weapons, nevertheless populations apparently were hurt by its use. We are now compensating our veterans to some extent because of this.

I think the whole question of the use of weapons of this type is very much the subject of this hearing before this Arms Control Subcommittee.

I understand a Member of the House testified before the Subcommittee on Asian and Pacific Affairs of the House Foreign Affairs Committee, which conducted hearings on the allegations of the use of chemical warfare on December 12, 1979, and April 24, 1980. There also have been statements by our State Department on the subject, and today we will hear from them. There has been United Nations

interest and action. But most important, in regard to "yellow rain" are the arms control ramifications and the need to sort out the facts.

[Senator Pressler's opening statement follows:]

OPENING STATEMENT OF HON. LARRY PRESSLER

The hearing is called to order. Today we will hear testimony from the administration and five public witnesses on allegations that chemical and biological warfare are being used in Laos, Cambodia, and Afghanistan. These allegations have circulated for some years now, and this subcommittee will hold as many hearings as required to get to the bottom of the matter.

From what we have read of these allegations of chemical and biological warfare, many of us, for different reasons, hope that they are untrue. We must not, however, allow our preconceptions and biases to interfere with our examining the evidence in an objective manner. Allegations that the Soviets are using or supplying new and terrible poisons or toxins for the purpose of exterminating their enemies are thoroughly frightening. They are frieghtening because a new weapon may have joined an already terrifying arsenal of world weaponry, and one that unscrupulous nations and even terrorist groups may acquire without great effort. It is also frightening in a general sense that vicious fighting of any kind continues against the Laotians, Cambodians, and Afghans, who are justly struggling against the yoke of foreign and domestic oppressors. I am pleased to learn that some representatives of the Afghan freedom fighters are in this room today. I deeply hope that what is said and done here today will help to focus world attention on the plight of these peoples.

The implications of what we hear today and in any future hearings on this subject will have profound influence in respect to arms control. The allegation that mycotoxins, generally described as "yellow rain," are being used against the peoples of Laos, Cambodia, and Afghanistan, if it can be proved, would represent a clear breach of the Geneva protocol of 1925, the biological weapons convention of 1972, and customary international law. It would call into question the advisability of signing any arms control treaty that did not have strict verification provisions. In a broader sense, it would open the troublesome question of international enforcement provisions against nations that violate international law.

The purpose of the hearing is to hear testimony regarding use of chemical and/or biological agents against peoples in Laos, Cambodia, and, to some extent, Afghanistan.

The United States at some time must determine (1) whether chemical and/or biological weapons were used in Asia; (2) who used them; (3) who provided the munitions; (4) what course of action to take if evidence seems credible; (5) weigh the implications of any violation of the Geneva Protocol on Chemical Warfare of 1925 and the Biological Weapons Convention of 1972 on other aspects of arms control.

BACKGROUND

Since 1976 there have been reports that chemical agents were being used against peoples in Afghanistan, Laos, and Cambodia (Kampuchea). The deaths and injuries alledgedly occurred primarily among the Hmong tribes in northern Laos, in Cambodia near the Thai border, and in Afghanistan. The number of deaths caused by such attacks are reported to be in the thousands. A great deal of uncertainty about the reports among the United States and other chemical warfare experts occurred because the symptoms did not match the effects produced by any known chemical warfare agent. There has been limited publicity about the alleged deaths due to chemical warfare. Two free-lance journalists, Jane Hamilton-Merritt and Sterling Seagrave, have produced various accounts of the chemical incidents, and Solder of Fortune magazine has done some respectable research. Congressman Jim Leach of Iowa has taken an active interest.

An American forensic medicine specialist and Mr. Seagrave finally concluded quite recently that the agent is a biologically produced mycotoxin, called "Yellow Rain" by its victims due to the yellow powder that floats down from the aircraft disseminating the agent. This discovery permitted experts to match the symptoms with the agent, although there has been some criticism of this thesis. The State Department Fact Sheet (Attachment 3) has technical details on "Yellow Rain".

CRITICAL COMMENTS ON EVIDENCE

The evidence on the use of yellow rain is far from conclusive and there are many questions about the reliability of evidence offered to date. The source of the specimens collected to date is from one area of concern. Skepties point out that the resistance groups bringing in the evidence, and the Thai military who have receieved it, are not notoriously reliable and have a vested interest in proving Vietnamese atrocities. This is particularly true for Pel Pot's Khmer Rouge whose close ties with China could, skeptics say, provide an ideal source for falsified evidence.

Some scientists question the conclusion that mycotoxins on the samples could only come from a biological weapon. They point that mycotoxin can and do occur naturally and that without soil samples and proper control samples, it's impossible to reach a definitive conclusion that mycotoxin on the leaf samples are from yellow rain.

Skeptics also note that most of the evidence of attacks in Indochina comes from the stories of Hmong refugees. They point out that Hmong are an unsophisticated hill tribe who may be describing the use of non-lethal gas, such as C.S. Many stories are secondhand, skeptics note, and are possibly subject to exaggeration.

There is also a lack of corroborative evidence. In spite of the presence of many Laotian and Vietnamese refugees, including military defectors. There have been no reports from pilots flying gassing missions, of soldiers training with or using gas masks, or of planes being hosed down after an attack, etc.

ADMINISTRATION ACTIONS

The State Department prepared a compendium of chemical warfare reports in June 1980, which the United States used to support the U.N. resolution to establish an impartial international investigation into reports of CW use. The State Department published its update of the compendium in March 1981. The basis for the evidence in the compendia rested largely on interviews with survivors and witnesses. Other evidence came from medical examinations by U.S. and other doctors of survivors, mainly in refugee camps, and some autopsies. DIA and CIA have both monitored the situation, but have not been able to launch intensive collection efforts.

Later in the year, the United States received samples taken from Laos and Cambodia of the agent used in some of the attacks. The samples, after analysis by U.S. laboratories, turned out to be a mycotoxin. The State Department officially made public its finds on September 13, 1981, when Secretary Haig addressed the Berlin Press Association. The following day Under Secretary Stoessel provide additional information at a press conference. It is likely that the Administration presented the information before it was quite ready in order to anticipate press reports that would have appeared prior to the State Department announcements. Subsequent samples have recently been analyzed, but the results have not been made public. The State Department would probably have preferred to wait until all laboratory tests were complete.

CONGRESSIONAL ACTIONS

The Subcommittee on Asian and Pacific Affairs of the House Foregin Affairs Committee conducted hearings on allegations of the use of chemical warfare on December 12, 1979, and April 24, 1980 (jointly with the Subcommittee on International Security and Scientific Affairs). Important testimony was presented both times, but the causal agent was still much in doubt. Congressman Jim Leach of Iowa has shown the most interest in the matter, and has frequently spoken against the inhumanity of this kind of warfare. Senator Humphrey of New Hampshire introducted a resolution on September 30, calling for the Senate to condemn biological/chemical warfare against the effected countries, urge the President to take action to end the outrages, and press the U.S.S.R. for an explanation. This was approved by the Senate.

UNITED NATIONS ACTION

In December 1980, the U.N. General Assembly passed a resolution, over stiff Soviet opposition, to authorize the appointment of a team to look into allegations of chemical warfare in Southeast Asia. The team consists of represent-

atives from Egypt, the Philippines, Kenya, and Peru. Only the United States and Canada submitted evidence, which, after its July meeting the team deemed not sufficient to prove chemical warfare. When, however, the United States submitted new evidence based on samples, the group determined that further investigation was warranted, and applied to travel to Pakistan, Thailand, Afghanistan, and Laos. The former two agreed; the latter two did not reply. The group was reluctant to travel to Cambodia due to uncertainties as to which group controlled the area. The group is presently in Thailand, and will probably complete a report in mid-November. The report will probably indicate that there was insufficient time, and suggest that the group be allowed to continue. That will require a renewal of their mandate, which the Soviets will resolutely oppose.

ARMS CONTROL RAMIFICATIONS

Two international agreements apply to chemical and bacteriological warfare—the Geneva Protocol of 1925 and the Biological Weapons Convention of 1972. The first prohibits "the use in war of asphyxiating, poisonous or other gases, and of all analogous liquids, materials or devices" and "bacteriological methods of warfare." The United States, Vietnam, and the U.S.S.R., are signatories; Afghanistan, Cambodia and Laos are not.

The pertinent passage to "Yellow Rain" in the BW Convention is in Article I: "Each State Party to this Convention undertakes never in any circumstances to develop, produce, stockpile or otherwise acquire or retain: (1) Microbial or other biological agents, or toxins whatever their origin or method of production, of types and in quantities that have no justification for prophylactic, protective or other peaceful purposes; (2) Weapons, equipment or means of delivery designed to use such agents or toxins for hostile purposes or in armed conflict."

Afghanistan, Cambodia, Laos, the United States, U.S.S.R. and Vietnam are signatories to the BW Convention.

It is unambgiously clear that the toxins commonly called "Yellow Rain" are totally prohibited, to include being produced or stored. Proof of their use by a signatory would be a clear violation of international law. The BW Convention has no verification provisions, however, and exactly what recourse nations would have against the offending party or parties is not clear. That is of course a problem with any violation of international law, as there is no standing enforcing mechanism.

The CHAIRMAN. I have a statement from Senator Alan Cranston, which I will read into the record at this point:

There are clearly reasons for skepticism about certain of the allegations of chemical warfare use made by the administration. I hope our witnesses today will clear up some of these doubts. On the basis of evidence made public to date, these doubts include the scarcity of physical evidence of mycotoxins in Laos and Cambodia; the lack of physical evidence of use of toxic chemicals in Afghanistan; the fact that up to now we have been dealing with an early analysis based on evidence collected without scientific controls; the lack of conclusive evidence that the suspect mycotoxins do not occur naturally in the area; and, finally, the absence of indisputable evidence of deaths caused directly by lethal chemicals.

I understand, of course, that the administration may have in its possession new evidence and other material that has not been available heretofore. I will be eager, in that case, to join in the evaluation of this evidence.

That was a statement by Senator Alan Cranston.

We will now hear from our witnesses, and, again, I ask that the 8-minute rule be observed. The lights in front of me will indicate when the time of the witness has expired.

Our first witness is my former colleague Congressman Jim Leach of Iowa, a neighbor colleague with whom I served in the U.S. House of Representatives. He has a great interest and ability in this area. I recently read an article in the Reader's Digest in which Jim was quoted. I will call upon him now to present his statement.

Congressman Leach.

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STATEMENT OF HON. JIM LEACH, A REPRESENTATIVE IN CONGRESS FROM IOWA

Representative LEACH. Thank you, Mr. Chairman, for allowing me to participate in this hearing.

The perversion of science represented by the use of biochemical weapons is one of the central tragedies of the 20th century. First used by the Germans at Ypres, Belgium, in 1914, poison gas resulted in casualties estimated as high as 1.3 million during World War I.

In response to the atrocities that were inflicted during that war, the Geneva protocol was negotiated in 1925, prohibiting gas and bacteriological methods of warfare.

Until recently few instances of the further use in combat of lethal chemicals have been documented. Chemical weapons were employed sporadically by Mussolini's troops against Ethiopia in 1935, by the Japanese in China and Taiwan in the late 1930's, and by the Egyptians in Yemen during the midsixties. According to information made public last month, during World War II, the Japanese attempted to spread the bubonic plague in Manchuria and killed about 3,000 humans, including prisoners of war, in biological agent experiments. The accounts of these experiments, which included fatal vivisections on downed American fliers, quite simply defy comprehension.

It is now clear that human guinea pigs are again being used in experiments with biochemical weapons, this time by the Soviet Union and its surrogates in Laos, Kampuchea, and, in all probability, Afghanistan.

Symbolic of the depravity of renewed usage of these weapons is the genocidal effort to eliminate the Hmong hilltribe people of Laos. Once numbering more than 300,000, the Hmong have a long history of opposition to Laotian and Vietnamese Communist authority.

I became concerned with the issue of renewed chemical weapons usage some 3 years ago, when I first heard rumors in the refugee community of the possible employment of these weapons against the Hmong. Accordingly, in January 1979, I visited Nong Khai, a refugee camp in northern Thailand, and interviewed tribespeople who personally had witnessed chemical attacks. Convinced of the validity of the claims, I requested that the State Department launch a thorough investigation of the problem and raise the issue as a high-priority item in appropriate international bodies.

Unfortunately, the Carter administration displayed surprising reluctance to investigate systematically the refugee reports and to apply appropriate historical perspective to the issue itself. It refused publicly to confirm that chemical weapons were indeed being used by the Vietnamese and Laotian Communist forces, despite the overwhelming refugee evidence and the corroboratory intelligence information available at the time.

The U.S. Government's approach to the problem in Southeast Asia has been unworthy of our tradition of support for international law and humanitarian principles. With regard to the maintenance of secrecy surrounding Japanese World War II experiments, our Government's role can only be described as morally derelict.

In return for those responsible being granted immunity from prosecution as war criminals, the results of the Japanese experiments

were turned over to U.S. authorities and kept secret. Even the fact that the experiments had been conducted was denied—all in the name of national security.

In the final analysis, this course of action may well prove to undermine our safety, not to mention our humanity, as it has fostered an atmosphere in which it has become increasingly expedient simply to ignore the mounting evidence of the development and use of chemical weapons.

To this day, efforts to collect physical evidence to support or refute human testimony have been haphazard and ineffective. Insufficient resources have been devoted to analysis. Samples have been mishandled or mislaid.

The State Department, in a hearing I requested almost 2 years ago, took the position that the U.S. Government had no responsibility under international law to determine the validity of the allegations concerning chemical weapons usage. While legalistically correct, this position represented a denial of moral responsibility. If civilized countries refuse to acknowledge the evidence and marshall world opinion against the use of such weapons, the legal, moral, and political sanctions against their use in the future cannot help but be weakened.

In fact, it is in no small part due to the efforts of energetic private citizens that the horror of biochemical weapons usage in Laos, Kampuchea, and Afghanistan has been brought to world attention. Such individuals as Sterling Seagrave, who committed substantial personal resources to investigating this issue; Jane Hamilton-Merritt, who brought the genocidal horror that has befallen the Hmong people to the attention of the American public; Jim Coyne, who actually walked into Laos in an effort to bring out physical evidence of chemical weapons usage; and Dr. Mirocha, whose university laboratory tests identified the nature of some of the weapons used, have, in effect, accomplished what our intelligence community should have many, many months ago.

The United States owes these individuals an enormous debt of gratitude.

Against this background of past unwillingness on the part of our Government to face up to this issue, Secretary Haig is to be commended for calling world attention to the chemical weapons problem in his September 13 speech in Berlin and for providing evidence that both the Geneva protocol of 1925, and the Biological Weapons Convention of 1972 have been violated through the use of exotic mycotoxins as instruments of warfare. His willingness to address this issue forthrightly stands in sharp contrast to the attitude that has characterized our Government up to this fall.

We must, however, go further and call the world's attention to the violation of the U.N. Convention on Genocide of 1948 constituted by Communist efforts to exterminate the Hmong people.

While the collection and analysis efforts appear to have improved since Secretary Haig took a firm position in this matter, I am not yet convinced that the U.S. Government is doing all that it can to halt this flagrant violation of international law and humanitarian principles. The validity of the evidence presented in conjunction with Secretary Haig's speech has been questioned by some because it was

based on only one sample. Hopefully, an analysis of more samples, including the one my office assisted in providing, will be forthcoming in the hearing this afternoon.

While an analysis of the first sample was probably sufficient only to indict rather than to convict with respect to the identity of the substances used, the exact identity of substances is irrelevant to the provision of proof that the crime itself has occurred. It was not necessary to identify the murderer in order to know that more than 20 black youths were slain in Atlanta. The bodies are proof enough.

In the case of chemical weapons usage in Indochina, we for years have had bodies, but simply lacked the "smoking gun." The "smoking gun," as analyzed by Dr. Mirocha, provides evidence of violation of the Biological Weapons Convention, which prohibits the development, production, stockpiling, and transfer of biological and toxin weapons, and points suspiciously to one source as the logical weapons provider. But the bodies alone are sufficient evidence of the renewed use of chemical weapons and therefore of violation of the Geneva protocol.

Now that the State Department has at last faced up to the fact that biochemical weapons are being used, it is time to assess where we go from here.

It would be my recommendation that our Government devote all necessary resources to gather and evaluate further evidence; put it before all appropriate international bodies, and take all necessary steps to insure that the full weight of international law and world opinion is engaged in the effort to halt this vicious form of warfare.

Further delays will lead to further deaths, and we will share the guilt if we do not do all that is possible to stop this crime against humanity. Any delay in definitively identifying the precise nature of the substances being used also means a loss of valuable time we should be using to insure that our military forces are able to defend themselves. From the perspective of NATO, it is estimated that Soviet forces include 90,000 officers and men trained extensively in chemical weaponry. The United States, by contrast, has perhaps 2,000, and a military doctrine reflecting a substantially lower tolerance for chemical weapons usage.

I would only conclude by noting that we are the first generation of people on the face of the Earth to have the capacity to destroy ourselves. One way we can do this is with nuclear weapons. Another way is with chemical weapons. The most vicious of all, however, is with biological weapons. To the extent that we downplay this issue we jeopardize our own security and the security of all people who ever have lived or will live on the face of this Earth.

Thank you.

The CHAIRMAN. Thank you very much, Congressman Leach. We shall insert your full statement into the record at this point.

[Representative Leach's prepared statement follows:]

PREPARED STATEMENT OF HON. JIM LEACH

Thank you, Mr. Chairman, for allowing me to participate in this important hearing.

The perversion of science represented by the use of biochemical weapons is one of the central tragedies of the 20th century. First used by the Germans at Ypres,

Belgium, in 1914, poison gas resulted in casualties estimated as high as 1.3 million during World War I. In response to the atrocities inflicted during the war, the Geneva Protocol was negotiated in 1925 prohibiting gas and bacteriological methods of warfare. Until recently, few instances of the further use in combat of lethal chemical agents have been documented. Chemical weapons were employed sporadically by Mussolini's troops against Ethiopia in 1935, by the Japanese in China and Taiwan in the late 1930's, and by the Egyptians in Yemen during the mid-1960's. And according to information made public last month, during World War II the Japanese attempted to spread the bubonic plague in Manchuria and killed about 3,000 humans, including prisoners of war, in biological agent experiments. The accounts of these experiments, which included fatal vivisections on downed American fliers, quite simply defy comprehension.

It is not clear that human guinea pigs are again being used in experiments with biochemical weapons—this time by the Soviet Union and its surrogates in Laos, Kampuchea, and in all probability Afghanistan.

Symbolic of the depravity of renewed usage of these weapons is the genocidal effort to eliminate the Hmong hilltribe people of Laos. Once numbering more than 300,000 the Hmong have a long history of opposition to Laotian and Vietnamese communist authority. Hmong forces fought with the French against the Viet Minh; and then, for 13 years, aided the United States during the Vietnam War. Suffering an estimated 30,000 casualties, Hmong troops helped deny large areas of Laos to the North Vietnamese. Had it not been for the Hmong, Hanoi could have thrown additional divisions into the war in South Vietnam. American soldiers are alive today because they did not stand alone.

I became concerned with the issue of renewed chemical weapons usage some 3 years ago, when I first heard rumors in the refugee community of the possible employment of these weapons against the Hmong in Laos. Accordingly, in January 1979, I visited Nong Khai, a refugee camp in northern Thailand and interviewed Hmong tribespeople who had personally witnessed chemical attacks. Convinced of the validity of refugee claims, I requested that the State Department launch a thorough investigation of the problem and raise the issue as a high priority item in appropriate international bodies.

Unfortunately, the Carter Administration displayed surprising reluctance to investigate systematically the refugee reports and to apply appropriate historical prespective to the issue itself. It refused publicly to confirm that chemical weapons were indeed being used by the Vietnamese and Laotian Communist forces, despite the overwhelming refugee evidence and the corroboratory intelligence information available at the time.

The U.S. Government's approach to the problem in Southeast Asia has been unworthy of our tradition of support for international law and humanitarian principles. And with regard to the maintenance of secrecy surrounding Japanese World War II experiments, our Government's role can only be described as morally derelict. In return for those responsible being granted immunity from prosecution as war criminals, the results of the Japanese experiments were turned over to U.S. authorities and kept secret. Even the fact that the experiments had been conducted was denied—all in the name of national security. In the final analysis, this course of action may well prove to have undermined our safety, not to mention our humanity, as it has fostered an atmosphere in which it has become increasingly expedient simply to ignore the mounting evidence of the development and use of chemical weapons. To this day, efforts to collect physical evidence to support or refute human testimony have been haphazard and ineffective. Insufficient resources have been devoted to analysis. Samples have been mishandled or mislaid.

The State Department, in a hearing I requested almost 2 years ago, took the position that the U.S Government had no responsibility under international law to determine the validity of the allegations concerning chemical weapons usage. While legalistically correct, this position represented a denial of moral responsibility. If civilized countries refuse to acknowledge the evidence and marshall world opinion against the use of such weapons, the legal, moral, and political sanctions against their use in the future could not help but be weakened.

In fact, it is no small part due to the efforts of energetic private citizens that the horror of biochemical weapons usage in Laos, Kampuchea, and Afghanistan has been brought to world attention. Such individuals as Sterling Seagrave, who committed substantial personal resources to investigating this issue; Jane Hamilton-Merritt, who brought the genocidal horror that has befallen the Hmong people to the attention of the American public; Jim Coyne, who actually walked into Laos in an effort to bring out physical evidence of chemical weapons usage;

and Dr. Mirocha, whose university laboratory tests identified the nature of some of the weapons used, have in effect accomplished what our intelligence community should have many months ago. The United States owes these individuals an enormous debt of gratitude.

Against the background of past unwillingness of the part of our Government to face up to the issue, Secretary Haig is to be commended for calling world attention to the chemical weapons problem in his September 13 speech in Berlin and for providing evidence that both the Geneva Protocol of 1925 and the Biological Weapons Convention of 1972 have been violated through the use of exotic mycotoxins as instruments of warfare. His willingness to address this issue forthrightly stands in sharp contrast to the attitude that has characterized our government up to this fall. We must, however, go further and call to the world's attention the violation of the U.N. convention on Genocide of 1948 constituted by Communist effort to exterminate the Hmong people.

While the collection and analysis effort appears to have improved since Secretary Haig took a firm position on the matter, I am not yet convinced that the U.S. Government is doing all it can to halt this flagrant violation of international law and humanitarian principles. The validity of the evidence presented in conjunction with Secretary Haig's speech has been questioned by some because it was based on only one sample. Hopefully, an analysis of more samples, including the one my office assisted in providing, will be forthcoming in the hearing this afternoon.

While an analysis of the first sample was probably sufficient only to indict rather than to convict with respect to the identity of the substances used, the exact identity of substances is irrelevant to the provision of proof that the crime itself has occurred. It was not necessary to identify the murderer in order to know that more than 20 black youths were slain in Atlanta. The bodies are proof enough. In the case of chemical weapons usage in Indo-China, we have for years had bodies but simply lacked the "smoking gun." The "smoking gun," as analyzed by Dr. Mirocha, provides evidence of violation of the Biological Weapons Convention—which prohibits the development, production, stockpiling and transfer of biological and toxin weapons—and points suspiciously to one source as the logical weapons provider. But bodies alone are sufficient evidence of the renewed use of chemical weapons and therefore of violation of the Geneva Protocol.

Now that the State Department has at last faced up to the fact that biochemical weapons are being used, it is time to assess where we go from here. It would be my recommendation that our Government devote all necessary resources to gather and evaluate further evidence; put it before all appropriate international bodies; and take all necessary steps to ensure that the full weight of international law and world opinion is engaged in the effort to halt this vicious new form of warfare. Further delays will lead to further deaths, and we will share the guilt if we do not do all that is possible to stop this crime against humanity. Any delay in definitively identifying the precise nature of the substances being used also means a loss of valuable time we should be using to ensure that our military forces are able to defend themselves. From the perspective of NATO, it is estimated that Soviet forces include 90,000 officers and men trained extensively in chemical weaponry. The United States, by contrast, has perhaps 2,000, and a military doctrine reflecting a substantially lower tolerance for chemical weapons use.

Mr. Chairman, I have yet to hear a satisfactory answer as to why we should not immediately and forthrightly bring this issue before the U.N. Security Council, as provided for in Article VI of the Biological Weapons Convention. A failure to do so would represent a dereliction of our moral responsibility at a time when innocent people are still being gassed in Southeast Asia and Afghanistan. If it is necessary to reveal intelligence methods in order to make a convincing case before the Security Council, we should carefully consider whether the imperative need to stop the use of chemical weapons does not override classification procedures that may be appropriate in the case of less pressing issues. In addition, it would appear appropriate to call upon France, as the depository state for the 1925 Geneva Protocol, to convene the signatory parties in order to systematically investigate the problem and to suggest that ASEAN might conduct its own investigation in conjunction with the U.N. Group of Experts.

Having been a delegate to the Geneva Disarmament Conference 10 years ago, when we first negotiated the Biological Weapons Convention, I also believe it imperative for the U.S. Government to undertake a new initiative on a chemical warfare convention, recognizing that verification must be a key provision.

In strategic terms, the use of biochemical weapons raises the possibility that without new international sanctions another enormously expensive and awesomely dangerous arms race may be in the making. Faced with evidence that the Soviets have not only a capability but also a willingness to use mycotoxin weapons, the United States has only two realistic options. National security requires that we either upgrade significantly our own chemical arsenal or launch negotiations aimed at definitively eliminating biochemical instruments of warfare. Given the training and technological advantage currently enjoyed by the Soviets, strategic as well as humanitarian considerations make arms control vastly preferable to a costly new arms race that in the long run no one can win.

If legitimized through production, stockpiling and use, chemical and mycotoxin weapons could all too easily become the poor man's weapon of mass destruction. Nuclear arms are beyond the financial and technical capabilities of most nations. However, countries which are unable or unwilling to produce nuclear weapons can easily produce or obtain some types of deadly biochemical weapons. If the Soviet Union and it surrogates get away with using such weapons with impunity, the list of other countries willing and able to do likewise will almost certainly grow. Originally employed with terrifying consequence in the trenches of Western Europe, biochemical weapons may well prove to be lethal additions to the arsenal of guerrilla movements and used in so-called "wars of national liberation" against legitimate governments in the Third World. It is by no means too farfetched, for example, to imagine a Soviet surrogate such as Cuba being trained and equipped with this capability.

Going beyond the issue of chemical weapons alone, an excellent opportunity is presented to test the concept of linkage in the arms control field. A symbolic and meaningful way of reorienting the direction of arms control talks might well be to bring the issue of chemical weapons to the SALT negotiating table. Such linkage would bring Soviet Third World adventurism to the forefront and serve as well to broaden arms control concerns away from the United States and Soviet preoccupation with bilateral nuclear discussions. If the Soviets are not prepared to be forthcoming in negotiating a verifiable ban on chemical weapons, they can have little expectation of meaningful progress in other arms control areas.

The use of poison gas is one of the most inhumane acts of the modern world. If the international community does not join together to outlaw such weapons, civilized society could cease. We could all be reduced to living the kind of presocietal existence 18th century philosopher Thomas Hobbes described as "solitary, poor, nasty, brutish, and short." Government was instituted to uplift men from this self-destructive environment. Now it appears governments themselves are a prime factor in taking the "civilization" out of "twentieth century civilization."

We are the first generation in the history of the world capable of destroying ourselves through misuse of weapons of mass destruction. To avoid extinction or reduction of the world to a pre-civilization Hobbesian existence, the leadership of restraint has never been more required in international politics. Man's fate will be determined by the forthrightness with which we recognize and learn to control the awesome weapons wrought by twentieth century science.

The CHAIRMAN. You have had personal experience in interviewing refugees who have been affected by this, is that right?

Representative LEACH. That is correct.

The CHAIRMAN. Do you have any results of that which you can give us, or is that in your statement?

Representative LEACH. I would only say that one can describe clinically a number of things in terms of human horror, but numbers mean nothing when compared to people. When you have a father and mother tell you of the dropping of chemicals on their child and that their child is no longer living, it brings a perspective that cannot be described by saying that we believe 3,000 to 30,000 human beings have been killed in Southeast Asia.

The fact is that a genocide is going on, which the world largely has ignored, and the fact is that our Government itself has largely ignored it until the last several weeks.

The CHAIRMAN. Thank you very much, Congressman Leach.

I now call on the administration panel, headed by Richard Burt, Director of the Bureau of Politico-Military Affairs. Mr. Burt will be accompanied by Amoretto Hoeber, Deputy Assistant Secretary of the Army for Research, Development, and Acquisition; Dr. Sharon Watson of the Army Office of Surgeon Generals; Gary Crocker of the Bureau of Intelligence and Research, Department of State; and Robert Mikulak of the Arms Control and Disarmament Agency.

We normally would limit each of you to 8 minutes, but if you wish to pool your time or divide it up is some other way for your presentations, please do as you wish.

Mr. Burt, I believe you are the chairman and you are in charge. Please proceed.

Mr. BURT. Mr. Chairman, I would like to read my statement, which will take a bit more than 8 minutes. Mine is the only statement of the panel. Then you can address your questions to any members of our panel.

The CHAIRMAN. That will be fine.

STATEMENT OF RICHARD BURT, DIRECTOR, BUREAU OF POLITICO-MILITARY AFFAIRS, DEPARTMENT OF STATE, ACCOMPANIED BY AMORETTO HOEBER, DEPUTY ASSISTANT SECRETARY OF THE ARMY FOR RESEARCH, DEVELOPMENT, AND ACQUISITION; DR. SHARON WATSON, ARMY OFFICE OF SURGEON GENERALS; GARY CROCKER, BUREAU OF INTELLIGENCE AND RESEARCH, DEPARTMENT OF STATE; AND ROBERT MIKULAK, ARMS CONTROL AND DISARMAMENT AGENCY

Mr. BURT. Congressman Leach did point out that the work that has been done on this issue recently has been done by a small team of people. Some of those people who have been key to our efforts in recent weeks and months are appearing with me today. You have already introduced them, so I will not repeat the introduction. But I do want to say that we would not be able to address this issue in the degree of detail that we will today without their excellent work

Witnesses appear before the Congress on a whole host of subjects. But there is no subject of greater urgency than that which we are here to discuss today.

Over the past 5 years, and perhaps longer, weapons outlawed by mankind, weapons successfully banned from the battlefields of the industrialized world for over five decades, have been used against unsophisticated and defenseless people, in campaigns of mounting extermination which are being conducted in Laos, Kampuchea, and, more recently, in Afghanistan.

Reports of the use of lethal chemical weapons in Southeast Asia began to appear in 1976, although the initial attacks may, in fact, predate that by several years. The sites of these first attacks were in remote highlands of Laos, 6 weeks by jungle track from the nearest neutral territory. The targets were the villages of the highland tribes, such as the Hmong, traditionally resistant to the lowland Pathet Lao. The victims were the inhabitants of these villages, men, women, and children, particularly the children, who proved least able to resist the lethal effects of the poisons being employed against them.

In succeeding years, the attacks multiplied and spread, first to Cambodia, or Kampuchea, and then to Afghanistan. Reports were necessarily fragmentary, incomplete, and episodic. The sources were the victims themselves, or the refugee workers, doctors, nurses, and journalists, who had spoken with those who survived the long trek from the deserted villages, the poisoned wells, and deadly fruit of their homeland to safe havens in Thailand.

As information accumulated, it was clear to the U.S. Government that something important and sinister was occurring. But it was not clear precisely what. Repeated stories, from rural peoples, in widely separated regions, in different countries, all correlated with each other. This made it impossible to discount these reports as self-serving inventions by dissident elements in conflict with the local regime.

Yet, while over time, we felt compelled to credit these reports as true, we remained puzzled by them for two reasons: First, because analysis of samples taken from the areas of attack—samples of vegetation, clothing, and human tissue—had shown no detectable traces of any known chemical agent; and, second, because the extent and sequence of the signs and symptoms reported also were inconsistent with the effects of any known chemical agent or combination of such agents.

In 1979, despite these remaining gaps in our evidence, the State Department, with the support of other agencies, began to take several important steps.

We set up an interagency committee to coordinate the Government's work on chemical weapons use, and worked with the intelligence community to devote greater resources to the development and analysis of information on the subject.

We began to brief other governments on this issue and to encourage them to develop and share with us their own information on these attacks.

We began to express our concerns publicly, and to seek wider international action.

As a result of these steps, we succeeded, last fall, in a securing a favorable vote in the United Nations General Assembly, over the vehement opposition of the Soviet Union, Vietnam, and their allies, mandating a U.N. investigation of reports of chemical weapons use.

A second result of these steps was the decision, by a group of U.S. Government scientists and experts on the CW [Chemical Weapon] Use Committee, to take a fresh look at reporting on chemical weapons use from the beginning, and in particular, to reexamine the pattern of attacks and the resultant symptons.

Many of the reported attacks, particularly in Laos, did follow a pattern—not an invariable pattern, but one with consistent elements from report to report. These attacks were conducted by low, slow flying aircraft, sometimes identified as an AN–2, a Soviet biplane used as a crop duster in the Soviet Union. The plane would release a cloud, often described as yellow, sometimes orange, red, or other tints. The cloud would descend upon a village or upon people in the neighboring rice paddies. The cloud seemed to be made up of small particles, which would make sounds, when falling on rooftops or vegetation, similar to that made by rain. It came to be called by its victims the "yellow rain."

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For those directly exposed to this yellow rain, its effect was quick and dramatic. They would experience an early onset of violent itching, vomiting, dizziness, and distorted vision. Within a short time, they would vomit blood-tinged material, then large quantities of bright red blood. Within an hour, they would die, apparently of shock and the massive loss of blood from the stomach.

Those on the periphery of the attack, or under shelter, or those who returned to the village after an attack and ate contaminated food, would experience similar symptoms over a longer period, accompanied by bloody diarrhea. These people, too, would often die—after a week or two of agony—of dehydration.

These symptoms in this order cannot be explained by positing the use of any known chemical agent, either of the blistering type, such as the mustard gas of World War I, or of the more modern nerve agents. Similar symptoms, however, have been reported in natural outbreaks of toxin poisoning of a certain type, specifically trichothecene toxins. Toxins are biologically produced chemical substances, poisons, which appear in nature, on grain, for instance. In some locales these pose serious hazards to public health.

The U.S. Government scientists and experts on the CW Use Committee combined their hypothesis of trichothecene poisoning based upon the symptomatology of reported CW attacks with a review of the literature, which revealed that the Soviet Union had a long experience in the field of trichothecene toxicology, and had done much research, including research into the massive production of trichothecene toxins. Some such research had, in fact, been done in Soviet institutes under military control and with connections to the Soviet chemical weapons program.

We concluded, therefore, that we should begin to look for evidence of possible toxin use.

As a first step in this direction, we started to reanalyze samples already tested for other chemical agents for the presence of toxins. So far, I have been citing evidence mainly from Southeast Asia, and particularly Laos, where the yellow rain attacks were first reported and where they have been conducted most systematically. In Kampuchea, growing reports in recent years suggest that a wide range of chemical warfare agents are in use, including yellow rain. Cyanide, for instance, has been discovered in wells. Vietnamese soldiers have been captured poisoning the wells of refugee camps on the Thai border.

In Afghanistan, too, the evidence of chemical weapons use has been rising. Today we are in much the same position, in terms of our ability to establish a pattern of such use and to identify specific agents being employed in Afghanistan, as we were in 1979 regarding Southeast Asia. We have numerous eyewitness reports, of victims and of journalists, we have sensitive intelligence of technical and and human origin, and we have testimony of those who have fought on the Soviet side.

Based upon this information, we are certain that chemical weapons are being used in Afghanistan. These include irritants, new and as yet unidentified incapacitants, and familiar lethal agents, including nerve gas. A number of former Afghan military officers, trained in the Soviet Union in chemical warfare, have identified

lethal agents brought into Afghanistan, have pinpointed the sites where they are stored, and have specified when they have been used. These reports are corroborated by reports from refugees and victims of these same attacks.

We do not, as yet, have physical evidence of chemical warfare in Afghanistan. In Southeast Asia, we do. The first set of samples we subjected to test for trichothecene toxins was taken from a village in Kampuchea. It was collected within a day of an attack on the village which killed people in the same brutal manner I have described. The results of that analysis, as you already are aware, showed that:

The leaf and stem in question contained levels of trichothecene mycotoxins 20 times higher than that found in natural outbreaks;

The trichothecene mycotoxins found do not occur naturally in the combination identified in Southeast Asia;

In parts of the world where these mycotoxins do appear naturally, they do so in combination with certain other toxins which were not present in this sample;

The effect of these trichothecene mycotoxins on man and animals is the symptomatology I have described. These toxins have produced all of the symptoms I have mentioned, and they are not known to produce any symptoms not reported. The fit, in other words, was perfect.

Others here are better qualified to discuss the technical process of analysis and to interpret the results for you. The significance of this discovery, however, can be simply stated. We had solved the mystery. We had fitted together the jigsaw puzzle which had bedeviled us for 5 years. We now knew what was causing the bizarre and brutal deaths of Laotian and Kampuchean villagers. We had ascertained that a completely new class of weapons had been developed and was in use.

In the past few weeks we have completed analysis of further samples, from both Kampuchea and Laos. The results have confirmed our earlier findings and reinforced the conclusions we have drawn from them.

One of these new samples was of water, taken from the same Kampuchean village, at the same time as the set of leaves and stems which was first analyzed positively for trichothecenes. The other two samples are from sites of separate attacks in Laos, one of which was provided to us for analysis by Congressmen Leach.

All three of these samples revealed very high quantities of trichothecene mycotoxins, quantities even higher than in the first sample. Both of the samples of yellow powder from Laos were scraped from rocks not naturally a medium for high levels of toxins. One of the Laos samples, for example, contained 150 parts per million of the T–2 toxin. This is almost 50 times higher than the level of T–2 in the original sample from Kampuchea. The water sample from Kampuchea contained 66 parts per million of deoxynivalenol.

In addition to samples collected from sites of reported attacks, we have also obtained samples of background soil and vegetation of the same species as originally tested, from near the same area in Kampuchea. These were tested by the same analytical technique, and found to be free of any trichothecenes, thus further confirming the absence of natural occurrence of these toxins in that region.

Dr. Watson is prepared to discuss the detailed results of these latest tests and their significance.

Again, however, the basic conclusion is a straight forward one: We have confirmed the use of toxin weapons in Laos as well as in Kampuchea.

Ever since the U.S. Government began to voice its concerns over reports of chemical weapons use, critics have demanded that we produce the smoking gun. The testimony of victims, of witnesses, of refugee military officers who had engaged in chemical warfare activities, and the technical intelligence was not enough. Those who did not believe said they would not believe unless we produced a smoking gun—physical proof.

We now have that smoking gun. We now have four separate pieces of physical evidence. We may soon have more, as I regret to say, chemical attacks have been reported in Laos and Kampuchea within the last month. We are taking every step to make this evidence widely available in order that others can form their own conclusions.

There will always be those who will not believe. We are persuaded, however, that any person, any government, any journalist who approaches this issue with an open mind, who travels to the borders of conflict and seeks out victims and those who have treated them, that anyone who conducts his own inquiry, will come to the same conclusions that we have.

Having answered one question which bedeviled us for 5 years, we have opened up a new set of unanswered questions. Toxins are one type of chemical weapons in use in Southeast Asia. But there are other chemical warfare agents in use there, and in Afghanistan, which we have yet to identify. The trichothecene mycotoxins we have discovered are a highly lethal mixture. But we are not certain this is the only type of toxin in use, and we are not certain precisely why this combination has been chosen or what combinations we yet may discover.

We are also addressing ourselves to the question of why toxins have been deve'oped and used as a weapon when other lethal chemical warfare agents are available, off the shelf, so to speak.

There seem to be a variety of factors that make toxin weapons particularly effective against the rural, defenseless peoples of nations like Laos and Kampuchea. The violence of the death, with victims experiencing severe vomiting, diarrhea, extreme irritation of the eyes, skin and respiratory system, and often dying rapidly; the care with which the powder can be carefully applied to a limited area; and the survival rate of those on the periphery—who can report what they have seen—all contribute to making this type of weapon suitable for driving people from their homes and villages and insuring that they stay away.

The limited protection needed by those who must handle this material—gloves and a simple face mask, as opposed to a complete protective suit—and the simple method of delivery—such as crop—dusting aircraft—contribute to its attractiveness as an effective weapon of terror.

Finally, the difficulty in detecting and identifying the toxins contribute to its attractiveness. It has, after all, taken the U.S. Government, with all the technical resources at its disposal, 5 years, and

many thousands of man-hours, to discover the true nature of yellow rain.

So far I have addressed the question of chemical weapons use, but not the issue of who is responsible for that use. The Soviet Union, of course, is directly involved in the fighting in Afghanistan, and thus in the use of chemical weapons in that country. In Laos and Kampuchea, on the other hand, these weapons would seem to be employed by indigenous forces—the Vietnamese, Laotians, and Kampucheans. Nevertheless, the links to the Soviet Union are strong.

The Soviets are providing extensive military assistance and advice in Laos, Kampuchea, and to the Vietnamese forces fighting there. The Soviets certainly know what is happening and are in a position to stop it if they choose.

The Soviets are advising and controlling chemical warfare activity in Southeast Asia. Soviet chemical experts have inspected a number of chemical weapons storage facilities there. Both lethal and nonlethal chemicals are believed to be stored at these sites and are transported between storage facilities and ordinance camps or field use areas, as needed.

There exist, insofar as we are aware, no facilities in Southeast Asia capable of producing the mold and extracting the mycotoxins in the quantities in which they are being used. Such facilities do exist in the Soviet Union, including microbiological plants, under military control and with heavy military guard.

The Soviets have resisted every effort to mount an impartial investigation of chemical weapons use in Southeast Asia and Afghanistan.

For over 2 years, we have sought, and failed to receive from the Soviet Union, an explanation of the anthrax outbreak at Sverdlovsk. We also have raised with the Soviet Union our concerns regarding chemical weapons use in Afghanistan and Southeast Asia. More recently, we have raised these issues again in the context of new information on the use of toxins.

We still have not received a substantive response.

The use of toxins as warfare agents in Southeast Asia has grave implications for present and future arms control arrangements. As biologically produced chemical substances, toxins fall within the prohibitions of both the 1925 Geneva Protocol, forbidding the use of chemical weapons in warfare, and the 1972 Biological Weapons Convention, which forbids the production, stockpiling, or transfer of toxin weapons.

These agreements, signed by both the Soviet Union and Vietnam, and the customary international law which has developed out of the former, are being flagrantly violated.

A common feature of the Geneva Protocol and the Biological Weapons Convention is that neither contain any provisions for verification, and neither contain adequate mechanisms for resolving issues of compliance.

It is too early to determine the full consequences of the use of chemical and toxin warfare agents for future arms control arrangements. There should be no doubt, however, that the U.S. Government will insist that any future arms control agreements contain whatever provisions are needed to permit verification and to insure that

questions of compliance are dealt with seriously. The day the United States signs unverifiable arms control agreements is over. Let us hope that the day when others urge us to do so in the cause of relaxed tensions or increased international goodwill is over as well. For nothing increases tension or poisons goodwill more than the lack of compliance with agreements concluded.

Let me turn next to the steps we have taken as a result of the new information we have on toxin use.

As I have noted, we have raised this issue again with the Soviets but to no effect. We have raised the issue with Vietnam and Laos, also without effect. We have made our evidence available to the United Nations and to all of its member countries. We have sent our experts to a number of European capitals, and to New York, where they met with the U.N. experts. We have indicated our hope that the U.N. experts continue their inquiry and travel at least to all those countries neighboring the scenes of conflict. They have just visited Thailand, and Pakistan has offered an invitation as well, to interview refugees and other sources.

We also have encouraged other nations and other private organizations, including journalists, to mount their own inquiries into what is going on in Southeast Asia and Afghanistan.

Our objective is to stop these attacks. We will keep this issue before the world community, and on the international agenda, as long as we need to do so. For the present, we believe priority should be given to the U.N. inquiry. A vote in the General Assembly on whether to extend the mandate for that investigation will be taken in the next 6 weeks. It is very important that this be done.

We also are reviewing other means to focus world opinion on this issue. If we are to succeed, we must make sure this is not simply perceived as a United States-Soviet contest, from which others can disengage. This means we must insure our evidence is made as widely available as possible, while avoiding any appearance of engaging in a propaganda campaign. If our efforts are to have any utility, others must take this information as seriously as we.

There is reason they should. For over 50 years chemical weapons have been banned successfully from the battlefields of the industrialized world. This success is due, I expect, as much to the deterrent effect of possible retaliation as to respect for the sanctity of international law. What is going on today in Afghanistan and Southeast Asia is not just an East-West issue. It is an issue of universal import, with particular consequences for those countries least prepared to defend against the use of chemical and biological agents.

It is our task to put out information at the disposal of the world community. It is the response of the world community, not just that of the U S. Government, its friends and allies, which will, in the end, determine whether these attacks continue and proliferate, or are halted forever.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much.

MEDICAL FINDINGS

May I ask you or a member of your panel this question. Has any purported victim, either living or dead, been examined by competent medical authorities and found to be infected by mycotoxins?

Mr. BURT. I will ask Gary Crocker from the State Department's Bureau of Intelligence and Research to answer.

Mr. CROCKER. I would comment that a very competent doctor is sitting behind me. Dr. Zikria, a very competent physician from Columbia University, who examined a victim of chemical attack in Afghanistan, is in the audience today. Other competent doctors have examined victims in Laos, from Laos, from Kampuchea, in the Thai camps. There also have been doctors, an American nurse, and an American doctor, who examined patients in Kampuchea.

The CHAIRMAN. So, it appears from your conclusion that there is a new and terrible weapon that is being used.

Do you anticipate that the publicity about this use of chemical and biological warfare will cause the perpetrators of it to cease? What was the last date on which one of these attacks occurred?

Mr. BURT. As I said in my testimony, Senator, we have information that suggests these attacks have occurred as recently as this month. We do think the attacks are continuing. As I also said, we think these attacks have been continuing for some 5 years or so.

Of course, we do think publicity will help. It may not be the only answer. We may have to investigate other remedies. For example, we have options of going to the United Nations Security Council. At the present time we are hoping that the General Assembly can deal with and debate this issue, can bring it to people's attention. We want the U.N. group of experts to continue to study this problem. We do think international attention, keeping this issue on the international agenda, is one means of bringing pressure against those who are using these weapons.

CHEMICAL SAMPLES ANALYZED

The CHAIRMAN. How certain is the State Department that the samples that have been analyzed were handled properly from the time they were collected until they reached the laboratory?

Mr. BURT. Senator, we are very certain that they have been handled properly. I would like to ask Dr. Sharon Watson to say a little about how those samples have been handled.

The CHAIRMAN. Dr. Watson, would you please pull the microphone up very close to you.

Dr. WATSON. The first sample that was analyzed was collected by an individual who was trained in collection of samples and who was acting under instructions that were put together by that special group of experts. The samples that have been analyzed most recently are samples which were collected earlier and had been previously examined for the presence of other chemical warfare agents.

The control samples that were collected were collected by trained personnel. These samples were collected according to instructions and were collected in exactly the same manner as the initial leaf sample. The vegetation was matched up by species. We also took soil samples.

All of these analyses have been done on a blind basis.

The CHAIRMAN. On what kind of basis?

Dr. WATSON. On a blind basis. The investigator, Dr. Mirocha, who has conducted the analyses, had no idea what the samples were, where they came from, or anything about their history. So he did not know which was a true sample and which was a control sample at

the time of the analysis. In this way we insured the unbiased result of analysis.

Mr. BURT. Senator, I might add to that. To give you some idea of the degree of confidence we have that these samples were generally handled properly, one of the samples from Laos is a water sample. It was actually spilled by the individual who was bringing out this sample. It spilled on his person, and he contracted some of the symptoms that are connected with these mycotoxins. As I understand it, he actually arrived in Thailand gravely ill, having accidently spilled a portion of the substance on himself.

CHEMICAL PROTECTIVE CLOTHING

The CHAIRMAN. Are there chemical protective clothing and chemical masks that would be effective against these toxins?

Mr. BURT. I think Dr. Hoeber would be the person to answer that question.

Ms. HOEBER. I am Mrs. Hoeber from the Department of the Army. Our chemical protective headgear does protect against toxins.

Our chemical detection devices were not intended to detect toxins, were not designed that way, and do not do so today.

The CHAIRMAN. This morning, in a radio interview for a foreign radio station, I was asked to distinguish between this type of warfare and agent orange. I explained that agent orange was a herbicide which really was not designed to hurt people.

How, in terms of the world perception, would you answer that question?

Mr. BURT. Senator, let me begin by saying that I think even contrasting the two in a single question does a disservice and demonstrates a misunderstanding of what is going on.

When agent orange was used—and, in fact, more of it was used in this country than ever in Vietnam—it was not understood to have any health risks attached to it. When there were suggestions that there were health risks attached to agent orange, its use was discontinued. In terms of the symptoms and the effect of the two, I would compare it to someone offering somebody a cigarette, such as the one I now am smoking, and giving them a cyanide pill. We don't know what the long-term health impact of agent orange is, but we do know what the impact of cyanide is, what the impact of these mycotoxins are. They are deadly. People die in a matter of minutes. They obviously are being used by people who know that this is their effect.

The CHAIRMAN. The finger of suspicion has been pointed either at the Soviet Union or at Vietnam. Could any other nations be involved?

CLEAR LINK WITH SOVIET UNION

Mr. BURT. As I pointed out in my testimony, I think there clearly is a link with the Soviet Union. We believe, at a minimum, because of the Soviet role and military involvement in Vietnam, Laos, and Kampuchea, that the Soviets could stop its use if they so desire. They have expertise in this area, and they do have a record of developing and having the capability to use chemical weapons.

The CHAIRMAN. You mentioned how effective yellow rain was against certain targets. What is its potential as an antiguerrilla weapon? I guess whoever is using it finds that this is a much more effective way to break the will and spirit of people than, say, sending troops through the countryside, or something of that sort.

What is the result in the villages after the spraying? What happens? Do the people move away from that area?

Mr. BURT. They have to move because not only are many people killed, but their crops are destroyed, their animals are destroyed. It is an excellent way to depopulate a region. Moreover, it is a superb terror weapon.

One has to recognize that it is being used in remote areas against relatively unsophisticated populations. One can imagine the psychological terror of going through a yellow rain attack.

The CHAIRMAN. In your testimony, you said: "First, because analysis of samples taken from the areas of attack—samples of vegetation, clothing, and human tissue—had shown no detectable traces of any known chemical agent," and you therefore conclude that this is a new weapon, a new chemical force. Is that correct?

Mr. BURT. Not quite. Our earlier research, when the reports first became available, did turn up negative. We were unable to understand, the U.S. Government was unable to understand in the late seventies what was happening. As I traced through the kind of detective puzzle we had to face, it was a decision taken really last year by the CW Use Committee within the U.S. Government to reanalyze those samples and to look for new samples because there was a correlation in the symptomatology of toxins and the kind of reports we were getting.

The CHAIRMAN. You also say that they cannot be explained by some of the known chemical agents. You say that the Soviets have been experimenting with this.

Perhaps this question would be asked more appropriately in a closed session, but I will ask it anyway. Are we experimenting with anything similar?

U.S. RENOUNCED USE OF TOXINS

Mr. BURT. I can tell you that in 1969, the United States renounced the use of toxins and biological weapons as offensive weapons. We have destroyed all of our stockpiles in that area. We have signed the 1972 Convention. We ratified that Convention in 1975, and the United States is not now doing any research in the area of offensive toxin weapons. Nor are we considering the development of any such weapons.

The CHAIRMAN. You state that Vietnamese soldiers have been captured poisoning the wells of refugee camps on the Thai border.

How do you know that for certain?

Mr. BURT. I will let Mr. Crocker handle that. He is our intelligence expert.

Mr. CROCKER. We have Foreign Service Officers who periodically visit the Thai refugee camps. There are also international agencies there. The Red Cross is there. These people were caught in the Thai camps, in Thailand, poisoning the wells.

We can get you an official record that they were arrested in the Thai camps on the Thai side. There is no doubt about it.

The CHAIRMAN. With what were they poisoning the wells?

Mr. CROCKER. I, quite frankly, do not know the substance. I don't know if any of the other panel members do. Cyanide was found in one of the wells that the Vietnamese had poisoned, but I am not sure that in all cases this is what they used. We have found toxin in wells, so it could be both.

The CHAIRMAN. Mr. Burt, in your statement you say that we have solved the mystery and that "We had ascertained that a completely new class of weapons had been developed and was in use."

That is a very dramatic statement.

Would you say that you are still using some deductive logic in pulling this evidence together? Do you base that statement on what you consider very solid evidence that you have seen?

Mr. BURT. I would like to ask Dr. Watson to address that question technically. But first, I do want to say yes, this is a conclusion based on the scientific analysis that we have done of the samples. We have found a concentration of toxins that produced these symptoms and are highly effective weapons.

Now, as I point out in my statement, there are a number of questions which still remain to be answered: Whether there are different combinations of these toxins in use; why precisely the people who are using these weapons chose this combination of toxins; and so on.

But we have concluded, based on the evidence that we have, that these weapons do exist and are in use.

Would you like to add to that, Dr. Watson?

SAMPLES FROM CHEMICAL ATTACK SITE

Dr. WATSON. Senator, we have examined four samples from Kampuchea or from Laos that were taken from the site of a chemical attack, in which people died with the symptoms that are caused by these toxins.

All four of those samples have been found to contain high levels of trichothecene toxins. We have examined six control samples from areas that were adjacent to the area of attack in Kampuchea, several kilometers away, but on which none of the yellow rain fell. The vegetation was matched up exactly. We also took soil samples. All of these samples are negative for the trichothecenes.

I think the conclusion is inescapable, that the trichothecenes have been used as agents. The levels that were found could not be explained by a natural occurrence. The species that produces the trichothecenes cannot grow on a rock or in water. The natural occurrence argument I think has been effectively dealt with by these additional samples.

The CHAIRMAN. Has there been anything like this in the world elsewhere, where these same symptoms have appeared?

Dr. WATSON. Very early, in Afghanistan, there were a few reports in which symptoms were reported that were very similar. Those attacks seem to have stopped. The agents that are in use in Afghanistan now seem to be other agents. We are watching the situation very closely. But we have no physical evidence from Afghanistan, so we really cannot say.

CHEMICAL WEAPONS USED IN AFGHANISTAN

Mr. BURT. Senator, I might add that we have concluded, based on a variety of chunks of evidence, that chemical weapons are being used in Afghanistan. We do know, we do not have the evidence of whether this specific toxin is being used in Afghanistan—although we have received reports.

The CHAIRMAN. What would be the motive of the Soviet Union here? World opinion would be so much against this when it became known, as it has become known. Would the Soviets, from a strategic point of view, feel they were gaining something by this? Is it their only choice in order to retain control of certain areas?

What would you speculate their motive to be?

Mr. BURT. I really cannot speculate on motives, on why any nation, any group of individuals would use such weapons.

I can only point out, what I think an earlier question of yours underlined, which is that a weapon such as this, used against rural and unsophisticated peoples, would be a highly effective way to depopulate areas and a good way to terrorize people.

I might also point out that the use of differing weapons is present. We have concluded that not just this toxin weapon, but a whole array of chemical weapons is being used in Southeast Asia and Afghanistan, and this is a possible laboratory, a test bed, for these kinds of weapons, if a certain country desired to possess an arsenal and an inventory of these weapons.

Dr. WATSON. Senator, if I might add a comment, these trichothecenes are extremely difficult to detect. I really think their use in these inaccessible areas was fully expected not to be detected.

BIOLOGICAL WEAPONS CONVENTION

The CHAIRMAN. But this is going on in spite of the fact that there is a Biological Weapons Convention which the Soviet Union and the United States, at least, have signed, though some other countries have not. It forbids the production, stockpiling, or transfer of toxin weapons. You suggest that these could only be made in the Soviet Union or in a bigger country.

As chairman of the Arms Control Subcommittee, what do you think we can do about this? What is our next step?

Mr. BURT. I want our representative from the Arms Control and Disarmament Agency to comment on that in detail. But first, as I said in my statement, I would say that we must recognize the importance of verification across the board.

It is interesting that these existing agreements are somewhat anomalous in that they do not have tough verification. They do not have verification provisions, nor do they have any kind of tough provisions for insuring compliance. This makes it important for us to think about the possibility of trying to introduce verification and compliance provisions in these kinds of agreements, to recognize the importance of verification and compliance in any new agreements into which we enter.

I will stop here and will ask Mr. Mikulak to address the issue.

Mr. MIKULAK. Senator, I have very little to add.

The Convention itself, and the regime that has developed under the Convention, provide several remedies. These include a meeting of states parties to consider compliance questions; a possible taking of the issue to the U.N. Security Council, which Mr. Burt already has mentioned. I would like to emphasize what he said a few moments ago, that the most important thing now is to get this use of chemical weapons stopped. An important aspect of that effort is to draw as much public attention, international attention, to the evidence that we have developed, and to enlist other countries in pressing for an end to the use of chemical weapons.

The CHAIRMAN. For some time, the Khmer Rouge and its Chinese allies have been charging that the Vietnamese have used poison gas and biological agents. Obviously they have a vested interest in proving the truth of those charges. Can we be certain that the samples provided for analysis are genuine and not manufactured evidence?

Mr. BURT. I would just say, as I said in my testimony, that there have been just too many reports and too many samples. It would be easy if there were just one sample. It would be easy if there were just one report that this was going on. But the reports are too varied and from too many different locales. We have samples from Laos; we have samples from Kampuchea. We have reports from Afghanistan. We have the fact that we have identified these samples in very high levels in disparate regions, and that the symptomatology of the toxins we found matches exactly these widely varied reports from villagers and from others on what happens when they are attacked with these weapons.

Dr. Watson may want to add to that.

TOXINS DIFFICULT TO OBTAIN

Dr. WATSON. Senator, the only thing that I might add is that these toxins are difficult to obtain. T-2 toxin is available commercially, but in very small quantities, however, in milligram quantities, in research quantities. The others are not commercially available. Nivalenol, in particular, is very rare and difficult to obtain.

So, if you were going to falsify a sample and submit it to us for analysis, why would one use something that is so difficult to detect and so difficult to obtain? If you only wanted to prove the use of chemical warfare agents, you would use a standard chemical warfare agent that you would be assured we would be able to detect. Look at how long it took us to detect these.

Mr. BURT. Senator, I think Mr. Crocker also has a comment.

Mr. CROCKER. There is a striking difference in what you might call the propaganda activities of the three countries.

The Laotians did not make a propaganda issue out of the chemical warfare attacks early on. It was people in the camps who were interviewing them who made the issue and not the Laotians.

The Kampucheans, Pol Pot's people, did put out propaganda broadcasts early on. If you look at our previous testimony, we were very careful in analyzing what came out of Kampuchea. We were very cautious in looking at our evidence there.

In the case of Afghanistan, I don't believe the mujaheddin, the Freedom Fighters, made a case out of it. If you look at their propa-

ganda and their statements, you do not see them making a big issue out of it.

Really, it was other people who really asked them to get more information. It is not a key part of their campaign to try to get the Soviets out of their country.

The CHAIRMAN. Let me say that I am fully convinced that this chemical is being used—I speak personally. But for the sake of some other Senators and staff, there are still other questions which I think must be asked.

EVIDENCE OF CHEMICAL WEAPONS STORAGE SITES

Do we have any reports from Laos or Vietnam from pilots who flew gassing missions? Do we have any reports from Laotian or Vietnamese soldiers of preparations for gassing missions, such as the loading of gas cannisters or training with gas masks? Is there any evidence of postattack precautions, such as hosing down airplanes?

Mr. BURT. Senator, I will let Mr. Crocker go into more detail, but I will say, as I said in my statement, that we have plenty of evidence of Soviet presence in the region with chemical weapons storage sites, training activities, and the like.

Mr. CROCKER. I would point out first that the evidence really is overwhelming to an analyst, like me, when I put it on my desk and we attempted to put all of this into a compendium, which has been released to the public. We have even sanitized some of that sensitive information. There is a great amount of information.

You asked specifically about pilots. Yes, as a matter of fact, there is one very good Laotian pilot who flew these missions. He describes in detail, going back to 1976 the types of airplanes, where the missions were flown, how the Vietnamese sitting behind him told him where to go, which coordinates to bomb, how they were decontaminated when they returned, the role of the Soviets there.

At that point, when I took the refugee reports and the statements of the defectors, telling me exactly how it was done, I made up my mind that I did not need a leaf and stem sample to say that lethal agents were being used.

We have similar defectors, former Afghan military officers who were trained in the Soviet Union in chemical warfare, who have described the chemical attacks. They told us about agents that have been brought into the country, where they are located, and their use.

When you match this up against the refugee reports, you have a fairly solid, analytical case.

The CHAIRMAN. How much of the evidence on gas attack in Cambodia comes directly or indirectly from the Khmer Rouge? In view of their history, is there reason to believe them? Perhaps none of it comes from the rebels.

Mr. BURT. Senator, I think we have already answered that question by saying that we have been able to obtain our own samples. We have taken background samples. The Khmer Rouge has tried to make a propaganda issue of this. But I think it is fair to say that we have independent proof and have independently come to the conclusion that these weapons are being used in Kampuchea.

Congressman Leach I think criticizes the State Department, or has in the past, for dragging its feet on this issue. It is precisely because we did not want to find ourselves being used by any special political faction. We wanted to collect our case slowly, but prudently. We have done so. It is a 5-year detective jigsaw puzzle, as I said in my opening remarks.

So, I think we are confident that we are in no way being used by any special political faction in Kampuchea or in any other region, for that matter.

U.N. REPORT BEING PREPARED

The CHAIRMAN. I understand that the United Nations is going to make a report on this subject soon. Do you have any idea what that report will say? Have you provided this committee with all of the information that you provided the United Nations?

Mr. BURT. We do not know what the committee will report or what its conclusions will be. But we have been as cooperative as we possibly can with the U.N. committee of experts.

As soon as we were able to isolate this toxin, as soon as we concluded that it was being used, we reported to the committee, gave them all of our technical findings, and we will continue to cooperate fully with that committee.

The CHAIRMAN. Thank you very much.

Senator Pell has a statement and questions for the record. His questions have not arrived, and when they get here, they will be submitted to you for the record.

I have his statement, which I will read into the record.

Senator Pell's statement is the following:

"I join Senator Pressler in welcoming Mr. Burt and our other witnesses. This matter is of considerable interest in my part of the country. We have in Rhode Island a substantial number of Southeast Asian refugees and, of those, many are Hmong refugees from Laos. They are particularly interested in the question of chemical substances, particularly mycotoxins, which are reported to have been used in Laos and Cambodia.

"When Secretary Haig appeared before the committee on September 17, I discussed with him the validity of the evidence and possible U.S. initiatives to deal with the matter. At that time, Secretary Haig assured me that the administration would provide all of the material which has been accumulated to the United Nations for its own investigation.

"I understand that a report from the United Nations now is being prepared. I would hope Mr. Burt would inform us as to the status of that effort.

"When the Secretary was here in September, he was convinced that mycotoxins were used. He said direct Soviet involvement was somewhat less clear.

"I hope the testimony today will address directly the points by those who remain skeptical as to the evidence. It is very important also that the greatest of care be taken in assessing the blame. If the Soviet Union was directly involved, we want to know about that as well as the involvement of other nations. On the other hand, we do not want

capriciously to accuse nations of violating solemn international undertakings, except with an ironclad case."

That was Senator Pell's statement.

I thank this panel of witnesses very much and will call next upon the second panel.

Thank you all very much for your time and your fine testimony, and thank you, Mr. Burt.

Mr. BURT. Thank you, Mr. Chairman.

The CHAIRMAN. Our second panel will consist of the following witnesses: Dr. Chester Mirocha, professor of plant pathology, University of Minnesota, St. Paul, Minn.; and Dr. Matthew Meselson, professor of biochemistry, Harvard University, Cambridge, Mass.

Let me say that you will each have 8 minutes for your opening statements. If you have printed statements, those will be placed in the record and we would much appreciate a summary. I know that this may be difficult to do with such complex matters as today's subject. But because of the number of witnesses we have this afternoon, we do want to keep this hearing moving.

If you have no preference as to which of you goes first, I will call upon you in the order you are listed in our agenda. Also, if I mispronounce your name, please forgive me and also correct me.

Our first witness is Dr. Chester Mirocha. Please proceed and we thank you for being here today.

STATEMENT OF DR. CHESTER MIROCHA, PROFESSOR OF PLANT PATHOLOGY, UNIVERSITY OF MINNESOTA, ST. PAUL, MINN.

Dr. MIROCHA. I have no prepared statement, Mr. Chairman, so my delivery will not take 8 minutes.

Let me give you a brief background. I was trained at the University of California. I graduated in 1960 in plant pathology. I am presently professor of plant pathology at the University of Minnesota. I have worked with mycotoxins since about 1963.

We have pioneered, to some extent, in the analytical point of view, in the analyses of mycotoxins. That just about sums up my credentials.

The CHAIRMAN. Have you worked on this subject? Have you seen some of the samples?

Dr. MIROCHA. Yes: I have seen some of the samples. I assume these are the samples about which the committee is speaking.

The CHAIRMAN. What do they indicate to you? What is your conclusion? Are they valid?

ANALYSES ARE INDEED TRUE

Dr. MIROCHA. I have no reason to believe that they are not valid, so I assume that they are. The leaf samples were indeed leaf samples that we had received. The water samples were indeed water samples. The findings of the analyses are indeed true. I can only report that as a scientist, that is, what we found and what we received.

The CHAIRMAN. How many laboratories in the United States would be able to carry out this kind of analysis?

Dr. MIROCHA. I would think there would be a number of laboratories which could do this. Some of them are right here in Washington,

D.C. For example, the Food and Drug Administration adequately can analyze samples such as these. The USDA Laboratory in Peoria, Ill., has been working on mycotoxins. They are qualified; they are good people. There are those in the southern regional laboratory in New Orleans who are qualified people and are working with some of these toxins. There are other laboratories at universities which have worked with them.

Each one of these groups has varying degrees of competence or interest.

The CHAIRMAN. Is there any way that concentrations of the levels in the sample could have occurred naturally, or could have occurred by mishandling, perhaps by being refrigerated?

Dr. MIROCHA. Well, if I could sharpen your question just a bit, I think the latter question refers to the development, that is, the biosynthesis of the mycotoxins, or these natural products in question, during transit or storage. If I could be more specific and talk about the leaf material and also the leaf stems, in my opinion, working with these toxins and similar material since 1963, I do not believe that they could develop on that substrate in transit or in storage.

FUNGUS IN SOUTHEAST ASIA GROWS NATURALLY

The CHAIRMAN. A Washington Post article on September 23, 1971, quoted James R. Bamberg of Colorado State University. He said that it is possible that fungus in Southeast Asia grows T–2 naturally; that the leaves were contaminated with spores when they were collected; and in the trip to America the mold grew and produced T–2.

Please comment on this possibility.

Dr. MIROCHA. Dr. Bamberg, I am sure, is a respected scientist and he has his point of view. I can only comment by saying that indeed, in Southeast Asia, as in many parts of the world, including the United States, France, India, Japan, and Africa, the genus of what we call fusarium does exist. They are present there. Genetically they have the potential of producing mycotoxins, one of which is T–2 toxin.

So, I would agree with Dr. Bamberg that the potential for toxin production in southeast Asia exists, that is, the spores, the fungus, are there.

But, on the other hand, as far as the development of fusarium on a leaf surface such as those that we received, I would disagree in the sense that in my opinion the substrate, that is, the environment, is a hostile one for the development of the fungus. It does not compete well with fungi, like penicillium species, which would overgrow it completely. In my opinion, I would think that the presence of toxins on a leaf surface would be at a disadvantage because other fungi most likely would detoxify, metabolize or catabolize these, and reduce them into other entities—in other words, destroy them.

The CHAIRMAN. We will have more questions for you, but first I will call on Dr. Matthew Meselson, professor of chemistry, Harvard University, Cambridge, Mass.

We thank you for being with us today and invite your testimony.

STATEMENT OF DR. MATTHEW MESELSON, PROFESSOR OF BIOCHEMISTRY, HARVARD UNIVERSITY, CAMBRIDGE, MASS.

Dr. MESELSON. Thank you, Mr. Chairman. It is a privilege to appear at this important hearing.

My scientific background is in chemistry and biology and I have had, in addition, a longstanding interest in chemical warfare and chemical weapons.

In previous testimony on the very disturbing reports of chemical attacks in Laos and Kampuchea, presented before subcommittees of the House of Representatives in April 1980, I supported the course then being considered by the U.S. Government of bringing this matter before the United Nations. I certainly welcome the efforts of the United States to foster the now ongoing United Nations investigation and to extend its mandate for another year.

However, in some respects, I would recommend caution in concluding whether or not trichothecene mycotoxins have been used in Southeast Asia, although I agree that the preliminary evidence indicates that they have.

I question the initial categorical statement that the Government released in September that "these mycotoxins are not native to warm climates," or even the modified statement that we heard today, that they do not occur naturally in combinations identified in Southeast Asia.

We simply do not know enough about the natural occurrence of mycotoxins in Southeast Asia. I will come to that in a moment.

If we allow our case to hinge on overconfident statements about the origin of these particular mycotoxins, then, if we turn out to be wrong, our case will partially collapse; and if indeed further research shows it to be right, then hasty statements at this time will only create in the minds of those who should be agreeing with us a residue of doubt which will be difficult to overcome.

Now, in the limited time available I will not go very far into the technical details of why I do not think those statements are wholly reliable. But, in general, I would say this: We do not have any control studies from Southeast Asia except for the few samples briefly mentioned by Dr. Watson today. That information, which is not available to the scientific community for examination and review may shift my own evaluation somewhat, but additional control studies are needed.

In the scientific literature of the world there is, to my knowledge, not even a single study of whether these mycotoxins do or do not occur naturally in Southeast Asia. We do know, however that in laboratory tests, all four of the mycotoxins reported are produced in substantial concentrations under warm conditions by strains of the fungus fusarium. Moreover, there are published reports of natural outbreaks in Japan and India of each of the four toxins at warm times of the year. In one case, T–2 and DAS were reported in a natural outbreak on corn at 86 to 104° Farenheit. Regarding the claim that these mycotoxins are not native to warm climates, the existence of these and other published reports raises the question of whether the Government availed itself of adequate scientific advice in its initial public assessment of the evidence.

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There is a broader biological context in which some of these complexities should be viewed. Trichothecenes are natural products and may well play some widespread ecological role, possibly as insecticides or in competition between plant species, since they are powerful insect and plant poisons.

Nearly everything we know about the natural occurrence of trichothecene mycotoxins is known from food plants. Now, it is obvious that a plant species would generally not be chosen by man as a food plant if it accumulates appreciable amounts of trichothecenes. We must therefore be cautious in drawing conclusions about the natural occurrence of trichothecenes from the studies that have been done so far. Such studies, valuable so far as they go, may bias our judgment regarding the natural occurrence of trichothecenes.

What do we know about the natural occurrence of trichothecenes in nonfood plants? So far as is known to me, there is only one relevant case published in the scientific literature. This plant, Baccharis megapotomica, is a shrub, which in Brazil has been found to contain 200 to 300 parts per million of trichothecenes in its leaves. These are not the trichothecenes reported by Dr. Mircoha in samples from Southeast Asia, but related so-called macrocylic trichothecenes, called baccharins. Last month a study was published in the journal Science suggesting that the trichothecences are made by soil fungi and then taken up by the roots of the plant and translocated to the leaves where they are found as baccharins. Water sampled from the area had about 1,000 parts per million of these trichothecenes, also presumably derived from soil fungi. It would not be surprising to find these compounds on rock surfaces, derived from ground water or leaf exudates or washings. I see the yellow light, Mr. Chairman. Does that mean I must stop?

The CHAIRMAN. Please proceed for another 3 minutes.

Dr. MESELSON. May I have some of my colleague's time?

The CHAIRMAN. Yes; go ahead.

Dr. MESELSON. Thank you.

My point is that we know very little about the normal occurrence of trichothecene mycotoxins in the tropics. While learning more, we should avoid hasty assertions that the trichothecenes detected in Southeast Asia cannot be of normal occurrence.

There is another area of uncertainty, it seems to me, regarding the reported symptoms. There is serious question as to whether any of the mycotoxins Dr. Mirocha has reported, particularly if disseminated in course particles or droplets as described by Mr. Burt would cause the rapid and massive hemorrhage and death Mr. Burt described to us today. A recent publication, coauthored by Dr. Mirocha, is entitled "The Failure of Purified T-2 Mycotoxin to Produce Hemorrhaging in Dairy Cattle." A similar report has been published by a British research group, experimenting with calves and pigs. This is not to say that under some as yet undemonstrated conditions some of the reported trichothecenes, singly or in combination, cannot cause the reported symptoms. The point is, however, that at this time it would not be correct to say, regarding the demonstrated symptoms of the four trichothecenes and the reported symptoms that the fit was perfect.

Another question that must be considered with great care, although probably not at this particular hearing is whether the samples analyzed by Dr. Mirocha are authentic. Is there even a remote possibility

that the U.S. Government has somehow been provided with samples that are not authentic?

I would like to conclude by reading some summaries of interviews with victims or alleged victims of toxic chemical sprays from 10 different highlander villages in Southeast Asia.

First village: Abdominal pains, diarrhea, nasal irritation, coughs lasting more than a month; many children died;

Second village: Abdominal pains, diarrhea, skin rashes looking like insect bites following contact with sprayed vegetation; several children died;

Third village: Diarrhea, cramps, skin rashes, fevers, many children became ill; an estimated 30 died;

Fourth village: Diarrhea, cramps, rashes, fever, coughing blood; 38 children reported to have died.

I could read all 10 of these, but they all sound pretty much the same.

These interviews are not from Laos. They are not from Kampuchea. They are from the Republic of Vietnam representing 5 different tribes in 10 different villages. Each village was close to areas sprayed with herbicides, according to U.S Air Force flight records. The interviews were conducted by the U.S. National Academy of Sciences under a contract with the U.S. Defense Department as part of a study of the effects of herbicides in South Vietnam, published in 1974.

Now we believe that the herbicides used should not have these effects, unless the villagers had some unusual and quite unexpected sensitivity. I know that, and I agree with what was said about agent orange earlier today.

However, this experience from the Republic of Vietnam tells us that between the reported perceptions of the interviewed villagers who were presumably exposed to herbicide spraying and the perceptions of the officials in Washington who authorized the herbicide program, there was an extraordinary discrepancy. In sifting the various possible explanations of what occurred in Laos and Kampuchea, it may be important to keep this experience in mind. In summary, I would agree that our main interest is to stop what appears to be a serious use of toxic chemicals. Second, a convincing case has yet to be made to the scientific community that trichothecene toxins are in use. The question of their natural occurrence I would say is still at issue, and questions regarding the match of symptoms are also unresolved. And, although problems of confidentiality may arise here, we need full and reliable assurance of the authenticity of the samples.

While we keep studying and accumulating more data, and, importantly, while we put the detailed findings before the scientific community as has not yet been done, we should not hinge our efforts on the unqualified assertion that trichothecene toxins must be responsible for reports of chemical attacks in Laos and Kampuchea.

Finally, for the future, we ought to try to establish reliable national and international machinery for dealing with possible future allegations of chemical warfare.

Thank you, Mr. Chairman, for the extra time.

The CHAIRMAN. Thank you, I guess your bottom line is that we should be very careful about reaching sweeping conclusions at this point.

ELEMENTS NEEDED TO REACH CONCLUSION

What extra evidence do you think would be needed to satisfy you that toxins were being used? What elements do we need that we do not have in order to reach this conclusion, in your judgment? Let me say, too, that I think you are serving a very good purpose here by raising these questions, because we do need to be very careful in analyzing this. But the State Department has made categorical conclusions in its statement today.

What additional elements are missing, in your opinion?

Dr. MESELSON. The first is, if evidence in possession of the State Department is to be convincing, that information has to be put out and made available to the scientific community.

It is understandable that under heavy pressure of events, this may not have been given adequate priority. But maximum effort should now be made to change that situation and to release all relevant information that need not be classified.

Second, as to what else needs to be done, I would say that this is a complex matter to discuss in only a few minutes. The general answer to your question is that carefully thought-out comparisons need to be made of the sort that Dr. Watson was indicating, but which, in my opinion, have not yet been adequate.

The CHAIRMAN. You mentioned negative samples would be required before we could reach some conclusions about toxins in Southeast Asia. What do you mean by this and how long would this take?

Dr. MESELSON. It means you test samples of the same plant species taken some distance from the attack site, trying to reproduce the same ecological conditions. Then you subject the results to critical analysis and review by the scientific community. You try for example, to establish that plants, water and surfaces in the attack site have the toxins and that there is no fungus on the plants or in the ground from which the toxins could have come; but that in the sites where you don't have an attack, you do not find the toxin in plants of the same species growing under matched conditions, or on surfaces, or in water, et cetera. The latter is the sort of background evidence which, until the limited and briefly described work mentioned by Dr. Watson today, never has been done in Southeast Asia. The only published case where a nonfood plant has been analyzed for trichothecenes revealed a plant that apparently takes up trichothecenes through its roots and transforms them and translocates to its leaves, where they occur at high concentrations.

The CHAIRMAN. As I understand your point, it is that we do have some samples, quite a number of them, but unless you had a comparative sample on the same day from the same area——

Dr. MESELSON. Not just one, but a number of samples carefully selected along the lines I have indicated and with results subjected to critical review.

The CHAIRMAN [continuing]. Very well; many.

I don't want to get into a debate with you, but I noted that Dr. Watson had something to say on this.

How many samples did you have? Let me repeat that I do not want to initiate a debate here.

Dr. WATSON. I welcome coming back, Mr. Chairman.

The kinds of studies that Dr. Meselson has just described represent exactly what we did. We went in and took control samples under

the same conditions, matched up the species, took soil samples, and took vegetation samples, and those all have been shown to be negative. We have only six samples, but this is not an area where a troop of scientists can go in and collect samples at random and take all day doing it. The people who go in and do this are in danger every minute they are over there. They have to get out of there in a hurry.

While it is less than the scientific control study that I would like to have, I think we have answered the question of a natural occurrence.

I think Dr. Mirocha would agree with me that the appearance of 150 parts per million of T–2 toxin in something that was scraped off a rock could not possibly be a natural occurrence.

The CHAIRMAN. Dr. Mirocha, would you like to get into this?

SCIENTIFIC COMMUNITY GOOD FORUM

Dr. MIROCHA. Yes. I agree with my colleague that certainly the scientific community is a good forum for asking questions and taking a number of sides. This is healthy. It is a good way to arrive at truth. Sometimes it is painful, and sometimes it is not. Nevertheless, it takes time.

I can only report information on limited amounts of samples that I have had and to the best ability that we could work with the samples that we had. There were not many.

I would agree with Dr. Watson that indeed samples were sent to our laboratory of leaf material from someplace—I cannot say where they came from—and they were negative. We have a lot of these negative samples, and particularly the leaves. Someone else will have to comment about where they originated, because I have no idea which are controls, which are the principals, and so forth.

The comment as far as baccharin from the species baccharus being the macrocyclic trichothecene which is related chemically to the small membered trichothecene, certainly is a good example of a toxic component in leaves. It would appear that this material, based on my biological knowledge, does not come from soil, but rather by some organism that colonizes the roots and therefore then is translocated into the upper portion of the plant.

We have no evidence for this occurring in any of those plants infected by fusarium, which would include bananas, tomatoes, and many of the so-called crop plants. I would not preclude these from evidence to say that because we have not looked extensively on noncrop plants, that this therefore would deny the integrity of our findings on those plants at which we have looked.

Certainly Dr. Meselson is correct in saying that we have not looked extensively on some of the other horticultural varieties of plants, except for those sent to us by Dr. Watson or some other members of the group.

So we have some of this evidence. As a reporter, I would submit to the committee that we certainly have more examples of negative findings in the leaves sent to us as background controls than we have of positives in the principles.

The CHAIRMAN. From what you have seen and heard, what conclusions would you reach? Are these toxins being used? Or are you at the point where you don't know?

UNEQUIVOCAL PROOF OF TOXIN PRESENCE

Dr. MIROCHA. I can only report to you as a scientist that we have found unequivocal proof of the presence of these toxins, T-2 toxin, deoxynivalenol, diacetoxyscirpenol and nivalenol—four of them—on various substrates sent to our laboratory. They are in combinations which, in my opinion, are high and which, again, based on my experience, we do not find normally in that concentration in natural substrates.

Now the rest of a conclusion would be very subjective on my part and I would rather not overextend myself beyond my evidence.

The CHAIRMAN. Dr. Meselson, what is your bottom-line conclusion about what is going on?

Dr. MESELSON. If Dr. Watson and I and other scientists were looking at the same data and had the opportunity to analyze it adequately, we probably would agree more closely than we now seem to.

The CHAIRMAN. I guess, practically speaking, we in Government cannot always wait for absolute evidence. We must do what a jury does sometimes, which is to make conclusions based on evidence that appears to be beyond a reasonable doubt. Have we enough evidence here that we have reached that point? The State Department's statement has apparently concluded that we have. Would you agree with that? Do you think there is enough evidence?

Dr. MESELSON. Considering the evidence that has been made available, I would say that it is not adequate to rule out reasonable doubt.

The CHAIRMAN. Thank you.

There are some additional questions that other Senators will have for you to respond to for the record.

Is there a final statement or conclusion anyone wishes to make? Is there anything you wish to add?

Dr. WATSON. Senator, I would like to add that I have looked at the evidence. In all fairness to Dr. Meselson, some of the evidence has not been presented to him.

All of this evidence will be written up in a scientific publication and with peer review. I think that basically is what the problem is. We have not submitted the evidence for peer review to other scientists, other than those who were directly involved in the analysis, including Dr. Mirocha and several other experts in the mycotoxin field. We have not submitted it to the general scientific community, as yet, though we do intend to do so.

The CHAIRMAN. Can you do that? Is there a restriction on doing that?

Dr. WATSON. No; there is no restriction. As soon as the paper is written, we will submit it. It is just a matter of the events moving more quickly that a scientific publication normally moves toward publication. We very much would like to submit a full paper discussing all of these results.

The CHAIRMAN. Approximately when will that be done?

Dr. WATSON. As soon as all of the controls are finished.

The CHAIRMAN. Are there any further comments?

Dr MIROCHA. I think in defense here I would say that it is very difficult to answer your question of when because you don't do research or analyses on schedule. It might be early in 1982, it might be

spring. There are a lot of difficulties involved with these analyses, and one wants to be certain—at least most scientists do, so they like to repeat things. This takes time.

The CHAIRMAN. Thank you all very much.

Mr. Crocker, did you have an additional statement?

Mr. CROCKER. I would like to make just one comment.

NAS REPORT

I would say that you should be very cautious about the National Academy's report about the Montagnards. I read that report. I was startled because I lived with and worked with that tribe for 2 years, the tribes they are talking about at the time they were supposedly having these casualties and deaths of babies and whatnot.

I have been calling everyone I know who worked with those. My wife also was there. We were very familiar with that tribe. We never heard of it and I have not been able to find anyone else who worked with them who heard of it.

I am puzzled, therefore.

Now, maybe something happened, I am willing to have an open mind and discuss it. But a report was published by the National Academy of Sciences claiming that. That bothers me a great deal. We were very fond of the Montagnard people. I think anyone who worked with them had to be.

The CHAIRMAN. Thank you very much.

Our final panel will consist of four witnesses. We will have to move along very quickly. I note that there are slide presentations planned, but your statements will have to be made in 8 minutes. I would ask you each to summarize so that we will have time for questions.

I will call to the witness table the following: Ms. Jane Hamilton-Merritt, author of books and articles on Laos, Connecticut; Mr. Sterling Seagrave, author of "Yellow Rain", of Ocean City, Md.; Mr. James Coyne, author of articles on chemical warfare and insurgency in Afghanistan, of Boulder, Colo.; and Mrs. Karen McKay, executive director of the Committee for a Free Afghanistan, Washington, D.C.

I shall call upon the panelists in the order they are listed in the committee's agenda, unless there is a different order of preference.

[Pause]

The CHAIRMAN. I see that there is not.

Our first witness, therefore, will be Jane Hamilton-Merritt.

Ms. HAMILTON-MERRITT. Mr. Chairman, we are trying to get organized. Our schedule, as we had understood it, has been changed. Do the four of us have 8 minutes?

The CHAIRMAN. No; you have 8 minutes each. If you want to divide up the total time in a different way, you may. We must proceed on that schedule so that we can complete this panel's testimony by about 4:15 p.m.

Ms. HAMILTON-MERRITT. I was asked to say something on this issue and also to show some photographs. I was told that I could have some extra time because of the slides. May I have a few minutes to get the slide machine organized?

The CHAIRMAN. If you prefer, we can hear from another witness in the meantime. But if everyone else wants 8 minutes, I think we will have to stick to the 8 minute rule.

Do you each want 8 minutes?

[Pause.]

The CHAIRMAN. I see that everyone does. While you are getting organized, Ms. Hamilton-Merritt, we will call upon Mr. Sterling Seagrave, and then you can follow his testmony.

STATEMENT OF STERLING SEAGRAVE, AUTHOR OF "YELLOW RAIN" (1981), OCEAN CITY, MD.

Mr. SEAGRAVE. Senator, I am Sterling Seagrave. I am a journalist by profession. I am from Southeast Asia; my family has lived in North Burma for nearly 200 years, so I know the hill tribes of Indochina quite well. It was partly because of this that I orginally became interested in this subject.

I would like to confine my remarks today, for the sake of brevity, to some observations on the matter of believing or not believing evidence.

If I were to go to Harvard for a degree in biology, I would seek out Dr. Meselson to be my professor because I have great admiration for his intellect and also for his scientific training. However, in this particular circumstance, it is more parallel to trying to get advice on whether to cross the street when the traffic is heavy, I think I might go elsewhere for that decision.

My observation from the outset is that the problem for 6 years which has kept us from getting to the bottom of this has been a problem of people refusing to be willing to entertain ideas that were not proven clinically beyond any reasonable doubt. This was the obstacle that was raised to me when I began my private inquiry. I found myself amazed, year after year, as endless obstacles were thrown in my path and were thrown in the path of government investigators who were pursuing a parallel inquiry.

I was astonished to find that we were, in effect, stonewalled at various turns by people both at the American Embassy in Bangkok and at the State Department in Washington who, for reasons of their own, refused even to entertain the possibility that such poison gas attacks were taking place.

Under the present circumstances I personally am amazed that the investigation has reached the point it has. I know that up until midsummer of this year, all of the samples tested by the Government from Indochina had proven negative. Since July and August of this year, all of the samples tested by the Government, once it began looking at the possibility of toxins, have proven to be positive.

Therefore, I personally feel that, upon observation of this, which is the tip of the iceberg, and upon being informed of the rest of the iceberg, there no longer is any question that attacks are taking place, that these attacks do involve these toxins, and that there is no serious reason to doubt the essence of the investigation to this point.

I would argue that the reason the weapons have been used and will continue to be used for the immediate future is because the Soviets perceive that we are irresolute in our handling of the problem, and

that until we come together in some national sense of conviction on this issue, we will continue to see them using the weapons.

To me there is no question that in the case of genocide and poison warfare we should speak with one mind.

At this time, Mr. Chairman, I will defer to the other members of the panel.

The CHAIRMAN. Thank you.

Ms. Hamilton-Merritt is our next witness.

STATEMENT OF DR. JANE HAMILTON-MERRITT, AUTHOR OF BOOKS AND ARTICLES ON LAOS, CONNECTICUT

Ms. HAMILTON-MERRITT. Yes; thank you.

I am Dr. Jane Hamilton-Merritt, a writer, photographer, and expert on Southeast Asia.

I particularly appreciate the opportunity to speak before this body today, although I had hoped more people might have been here for this very critical issue. This is something on which I have worked extensively, researching and writing about for almost 5 years. I would concur totally with what my colleague, Sterling Seagrave, has said about the difficulties of getting information and cooperation with agencies.

In the late sixties, I encountered several of the mountain minorities of Laos, including the Hmong, with whom I lived and worked and whom I photographed.

After the United States withdrew militarily from Southeast Asia, I stayed in the area and continued to cover events in that part of the world.

Then, about 5 years ago, the Hmong began telling me of lethal agents being deployed against them by the Vietnamese and Pathet Lao forces in control of Laos. Hmong told of poisonous rains that came in the colors of yellow, red, blue-green, and white, causing people and animals to die. They told of fields rendered infertile by the poisonous rains, of poisoned water supplies, and of medical experimentation. They told of poisoned nails and darts, of starvation and rape, of Hmong people tied to ploughs like buffalo, of the crippling of children whose fathers worked for the United States, and they told of incredible suffering.

Hmong soldiers, farmers, women, and children from various parts of traditional Hmong territory told of poisoned rain attacks with exacting precision, pinpointing times of attacks and attack coordinates, modes of delivery, types of aircraft, altitudes of aircraft, names and ages of those killed. They gave vivid descriptions of what happened to those exposed to the toxic agents.

The Hmong, as you may remember, were trained by the United States to observe and to gather critical intelligence for us during the Vietnam war, which they did most effectively.

Hmong who escaped prison encampments told of receiving poisoned salt and rice from Vietnamese and Pathet Lao guards which causes teeth to fall out, gums to rot, and holes to appear in the roofs of their mouths, making it impossible to eat.

As unbelievable as it seemed, my rational sense told me that these impressive and very precise testimonies by survivors could not be

ignored. And so began for me years of collecting testimonies, interviewing medical and scientific personnel, and trying to convince the U.S. Government and the world that lethal agents were being used not only against former soldiers, but indiscriminately against innocent men, women, and children, with devastating effects.

It addition, evidence pointed clearly to the fact that the Hmong, our loyal and effective allies during the Vietnam war, had been singled out by the Soviet-supplied Vietnamese-Pathet Lao regime in Laos for extinction by any means possible, including the use of biological-chemical warfare.

I want members of this committee to know that I am a journalist, a researcher, a teacher, and scholar, but I am not a lawyer. However, it seems to me that the body of evidence provided by Hmong survivors from 1975 to the present is such that it cannot be ignored by people of good reason and commonsense.

Let me give you a couple of testimonies from people themselves.

This is in 1975: "The first time we were attacked by gas was October 1975, at Houie Skat," reported a Hmong soldier. "The Communists tried to take our village by fighting, but couldn't so they returned with four Cessna airplanes—two with rockets and two with chemicals. One plane carried red gas and the other yellow. Those near where the chemical rockets exploded fell unconscious immediately, with bleeding from the mouth and nose."

"They hit our area with gas attacks for 3 days. Seventy-five people died immediately and 500 were very sick and most died within a short time. Soon after death, a yellow water flowed from their bodies."

A Hmong woman, age 49 and now blind and suffering with severe headaches and living in this country, reported: "In March 1977, two helicopters and a small jet sprayed our entire village. The rain came from pipes attached to the helicopter. Many people died. I look up and get rain in my eyes. Then I couldn't see anything, pain in my eyes, headache, blind. I fall down for more than 1 hour. I cannot get up. Everyone have diarrhea with blood. My son, who was 4, get diarrhea with a lot of blood, vomit, get unconscious, and then die the next day."

"At Ban Don," a government controlled area, "soldiers give salt to the people which poison them and infect their mouths. One man was so infected with the salt that it ate his mouth and his nose away and you could see into his mouth by looking through the bridge of his nose."

An emaciated 13-year-old girl sits woodenly with an I-V in her skeletal arm. She tells me that she was gassed in January 1979, while working with four children in hill rice fields. She explained that the helicopter flew in low and bombs exploded with a whitish-grey fog, which knocked her to the ground and caused her to vomit blood. Her friends were sick also. She has suffered severe coughing with bloody sputum since that time. She has severe pains in her joints and cannot walk well. She also told me, "I feel foolish in my mind since the gassing."

"On March 25, 1979, two Mig jets flew over our prison camp where we were imprisoned by the Vietnamese and sprayed us with white rain. A hundred people died immediately. The rest of us had diarrhea

for 20 days, then fever. We cannot walk or raise our arms. Then many more people die.

"In May, four Pathet Lao medics gave injections in the arm to 30 Hmong, including me. It was the color of water. I immediately became dizzy and could not breathe. Blood spurted from my nose. I fell to the ground unconscious."

These attacks continue to the present, and I have hundreds of testimonies from survivors.

Perhaps now we can view the photographs. Can we lower the lights in the hearing room, please?

[Pause.]

Ms. HAMILTON-MERRITT. I'm sorry, but the slide machine does not appear to be working yet, so let me continue with my statement.

It seems to me that it is our moral obligation to speak out on this abhorrent use of biological-chemical warfare against men, women, and children in Laos and to find ways to make certain that it is stopped.

I was heartened today by what Mr. Burt had to say in his statement, that people are paying attention and looking seriously at the use of biological-chemical warfare in an area where it has been deployed since 1975.

Also, it occurs to me that these are just first steps.

The Hmong refugee leadership in this country, and there are about 50,000 Hmong in this country, continually has called for hearings in both the House and Senate before the appropriate committees to examine in detail not only the continued use of lethal toxic agents in Laos against the Hmong ethnic group, but to look into the long-term medical and genetic effects on Hmong exposed to a variety of poisons, into proper medical treatment for survivors, into the "sudden death syndrome" experienced by Hmong refugees here, and into the Hmong resettlement problems. One would hope that Hmong themselves might be asked to come and testify.

Mr. Chairman, I regret to say that the slide projector still is not operating. I had intended to show you pictures of people whom I had photographed who had survived the use of an assortment of biological-chemical agents in Laos, from 1975 through the present, who have managed, for the moment, to be survivors. They are alive, but when one sees the photographs one realizes that perhaps that is only a temporary situation.

The CHAIRMAN. Is there some way in which the machine could be fixed so that we could view the slides? Why don't you try to work on it and we will try to give you more time later if it can be fixed.

Ms. HAMILTON-MERRITT. Thank you, Mr. Chairman.

[Dr. Hamilton-Merritt's prepared statement follows:]

PREPARED STATEMENT OF DR. JANE HAMILTON-MERRITT

I appreciate the opportunity to speak before this body today on the uses of toxic agents in Laos against the Hmong tribal people since it is an issue on which I have worked exhaustively, researching and writing about this situation for almost five years.

I have a Ph. D. in Southeast Asian Studies and covered the Vietnam war as a journalist-photographer. For me covering the war meant reporting from the four countries involved in that war—Vietnam, Cambodia, Thailand, and Laos.

In the late 1960's, I encountered several of the mountain minorities of Laos, including the Hmong, whom I lived with, photographed, and wrote about.

After the U.S. militarily withdrew from Southeast Asia, most journalists were assigned to other areas. I was one of the few who continued to cover events in Southeast Asia.

Almost 5 years ago, Hmong began telling me of lethal agents being deployed against them by the Vietnamese and Pathet Lao forces in control of Laos. Hmong told of poisonous rains that came in colors of yellow, red, blue-green, and white, causing people and animals to die. They told of fields rendered infertile by the poisonous rains, of poisoned water supplies, and of medical experimentation. They told of poisoned nails or darts, of starvation, rape, of Hmong people tied to ploughs like buffalo, of the crippling of children whose fathers worked for the United States, and they told of incredible suffering.

Hmong soldiers, farmers, women, and children from various parts of traditional Hmong territory told of poisoned rain attacks with exacting precision, pin-pointing times of attacks and attack coordinates, modes of delivery, types of aircraft, altitudes of aircraft, names and ages of those killed, and vivid descriptions of what happened to those exposed to the toxic agents. The Hmong, as you may remember, were trained by the United States to observe and to gather critical intelligence for the United States during the Vietnam war—which they did most effectively.

Hmong who escaped prison encampments told of receiving poisoned salt and rice from Vietnamese and Pathet Lao guards which causes teeth to fall out, gums to rot, and holes to appear in the roofs of their mouths, making it impossible to eat.

Survivors tell also of poisonous darts or nails that are delivered by rockets that explode near the human targets. Victims of these devises if hit even on the arm or leg must, say the Hmong, die unless the fragment is removed immediately.

As unbelievable as it seemed, my rational sense told me that these impressive and very precise testimonies by survivors could not be ignored and so began for me years of collecting testimonies, interviewing medical and scientific personnel, and trying to convince the U.S. Government and the world that lethal agents were being used not only against former soldiers but indiscriminately against innocent men, women, and children with devastating effects.

In addition, evidence pointed clearly to the fact that the Hmong, our loyal and effective allies during the Vietnam war, had been singled out by the Soviet-supplied Vietnamese-Pathet Lao regime in Laos for extinction by any means possible—including the use of biological-chemical warfare.

I want members of this committee to know that I am a journalist, researcher, observer, teacher and scholar; I am not a lawyer. However, it seems to me that the body of evidence provided by Hmong survivors from 1975 to the present is such that it can not be ignored by people of good reason and common sense.

From the scores of testimonies of Hmong survivors which I have recorded, I thought it important to share with you some of those stories—beginning in 1975 and continuing to the present.

"The first time we were attacked by gas was October, 1975, at Houie Skat," reported a Hmong soldier. The Communists tried to take our village by fighting but couldn't, so they returned with four Cessna airplanes—two with rockets and two with chemicals. One plane carried red gas and the other yellow. Those near where the chemical rockets exploded fell unconscious immediately with bleeding from the mouth and nose.

"They hit our area with gas attacks for three days. Seventy-five people died immediately and 500 were very sick and most died within a short time. Soon after death, a yellow water flowed from their bodies."

Another survivor, age 29 and a soldier since he was 17, recalled, "In 1976, the Communists began to drop poisonous darts or nails from rockets which exploded on the ground shooting thin, inch-long barbed darts in our bodies. If hit in the stomach, neck, or chest with just one of the poison darts, the person must die.

"My younger cousin, 18, was hit by two darts in his left leg about six inches above his knee, making two small holes. For three days, the holes bled a lot. He couldn't eat; he could not walk; his eyes were no good. He said everything looked yellow. He could not move the side that was shot. He died in three months. The day he died, he was very black and his body was swelling."

A Hmong woman, age 49 and now blind suffering with severe headaches, reported, "In March, 1977, two helicopters and a small jet sprayed our entire village. The rain came from pipes attached to the helicopter. Many people died. I look up and get rain in my eyes. Then I couldn't see anything, pain in my eyes, headache, blind. I fall down for more than one hour. I can not get up. Everyone have diarrhea with blood. My son, who was four, get diarrhea with a lot of blood, vomit, get unconscious, and then die.

"At Ban Don (a government controlled area) soldiers give salt to the people which poison them and infect our mouths. One cousin was so infected with the salt in the mouth and the nose that we could see through his nose and into his mouth.

"Another family with us have stomach infection. Each day pieces of skin would come off until the whole area was open and we could see the intestines."

A Hmong farmer reported, "I'm only a farmer and I'm always thinking Laos has a big area for me to be a farmer, but the Communists make it too dangerous. For two years, they attack my area and so many people die. The planes cover us with red smoke, and the people and animals die. We cannot grow rice or farm. We must hide in caves. They drop poison gas on us 200 times in 1978 and 1979."

In a refugee camp infirmary, an emaciated 13-year-old girl sits woodenly with an I-V in her skeleton arm. She was gassed she tells me in January 1979, while working with four other children in hill rice fields. She explained that the helicopter flew in low and bombs exploded with whitish-grey fog which knocked her to the ground and caused her to vomit blood. Her friends were sick also. She has suffered severe coughing with bloody sputum since that time. She has severe pains in her joints and cannot walk well. She also admits, "I feel foolish in my mind since the gassing."

"On March 25, 1979, two Mig jets flew low over our prison camp and sprayed us with white rain. One hundred people died immediately. The rest of us had diarrhea for twenty days, then fever. We cannot walk or raise our arms. Many more people die.

"In May, four Pathet Lao medics gave injections in the arm to thirty Hmong, including me. It was the color of water. I immediately became dizzy and could not breathe. Blood spurted from my nose and I fell to the ground unconscious," reported a very skinny Hmong man who had managed to escape the prison encampment.

Another Hmong survivor reported, "On May 15, 1980, two Soviet helicopters dropped yellow powder on a Hmong village of 200 at coordinate TF 9376. Thirty-five died within seven days and the remaining are very sick.

"On May 20, 1980, two Soviet helicopters hit Ban Loun, near the 15 May coordinate target, with yellow powder. This village had approximately 250 Hmong people. Three died immediately, 43 died soon after the attack and 200 are extremely ill."

A Hmong chief reported that on April 2, 1981, a Soviet M-17 dropped yellow chemicals on Ban Thong Hak, killing 24 Hmong outright, including 11 children.

And Hmong who escaped Laos to Thailand continue to report that Hmong are being attacked by these toxic agents.

If our concern here today is to think about the implication of arms control vis-a-vis biological-chemical warfare and the verifications of any such arms control treaties, then perhaps I should say that U.S. Government agencies did not acknowledge the use of lethal agents in Laos until September 1981, six years after the use began.

The State Department response from 1980–81 to those asking about the use of toxic agents against the Hmong of Laos appeared in a letter that went to Senators and Congressmen as well as concerned American citizens which concluded that there was no conclusive evidence that lethal agents had been used and went on to say: "By 1978, the United States had enough information to bring the matter to the attention of the Government of Laos, which denied the validity of the reports. We received the same response when we asked the Soviet and Vietnamese Governments to look into the reports and end the practice if true."[1]

One would hope that there are better ways of enforcing a treaty such as a biological-chemical warfare prohibition than by asking the suspected violator if a violation had been committed.

While it is not perhaps the purpose of this hearing today to accuse a specific country or person of the violation of a treaty, it is however, the time to speak out to condemn the use of toxic and lethal agents in Laos—and perhaps in other parts of the world also.

While there are those who say that there is "no conclusive evidence to take to court" on this issue, I say it is not a legal court to which this issue must be addressed. This is a humanitarian issue which must be addressed to the world community. We have overwhelming evidence of the use of deadly agents being used in Laos and we must act on the evidence that we have in hand. It seems to me that it is

[1] Attached are copies of this State Department letter.

our moral obligation to speak out on this abhorrent use of biological-chemical warfare against men, women, and children in Laos and to find ways to make certain that it is stopped.

It is significant that members of the present administration have taken an active interest in this issue and have publicly acknowledged that lethal agents have been used in Laos, Kampuchea, and Afghanistan, but these are only first steps.

The Hmong refugee leadership in this country has continually called for hearings in both the House and Senate before the appropriate committees to examine in detail not only the continued use of lethal toxic agents in Laos against the Hmong ethnic group but to look into the long-term medical and genetic effects on Hmong exposed to a variety of poisons, into proper medical treatment for survivors, into the "sudden death syndrome" experienced by Hmong refugees here, and into the Hmong resettlement problems.

Perhaps this hearing today will be the first of a series of much needed investigations by Congress into these critical issues.

I'm submitting as part of my statement articles which I have written on the Hmong and on the use of toxic agents in Laos that have appeared in various publications, including the New York Times, Reader's Digest, and the Bangkok Post.

In conclusion, I would like to show a few photographs depicting Hmong in a traditional sense and then show photographs of survivors—at least temporary survivors—of the events in Laos which I have just described.

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Tragic Legacy From Laos

By Jane Hamilton-Merritt

60th Year: World's Most-Read Magazine
Over 31 million copies in 16 languages bought monthly

Tragic Legacy From Laos

By Jane Hamilton-Merritt

Last October, in "Gas Warfare in Laos: Communism's Drive to Annihilate a People," Reader's Digest told a horrifying story of modern-day genocide. Jane Hamilton-Merritt, a reporter-photographer and Ph.D. in Asian studies, disclosed the extermination by poison gas of thousands of H'mong, a fiercely independent tribal minority in Laos—people who had formed the backbone of a U.S.-supported guerrilla resistance against communist forces during the Vietnam war. In the following article she describes what has happened since. And what—tragically—has not.

No longer can the gassing of the H'mong be considered a faraway problem in Southeast Asia. Now the problem is here, on our own doorstep, among the H'mong refugees who have settled throughout the United States.

In the five years I reported on refugees in northern Thailand, I heard countless detailed accounts of poison-gas attacks by the Soviet-backed Lao-Vietnamese regime on H'mong villages—and of the deadly results. In 1960, there were an estimated 500,000 H'mong in Laos.* Today, some 100,000 are either in Thai refugee camps or resettled in Western countries, including about 40,000 who have come to the United States since 1976. A number of refugee experts fear that fewer than 100,000 are alive in Laos. Many died of starvation, but thousands were killed by gas attacks, which still continue.

I crisscrossed America recently, interviewing H'mong refugees, and I discovered a new dimension to their story of terror.

One H'mong leader estimates that of those who have arrived here, about 20,000 may have been exposed to the "poisonous rains" of chemical warfare. Many are chronically ill—because of the gassings, they believe. They complain of pulmonary problems, constant headaches, painful muscles and joints, eye and hearing disorders. Medical and public-health personnel who have worked with the H'mong are persuaded that their infant-mortality rate is high and that

*All population figures are approximate, as precise information is unavailable.

a large percentage suffer from cancer. More frightening, in the last few years in the United States, at least 35 young H'mong men and women have succumbed to a mysterious sudden death that occurs during sleep. The Centers for Disease Control in Atlanta have confirmed that 20 of these deaths are indeed unexplainable. (The other 15 were insufficiently documented.) Studies made in Portland, Ore., a large H'mong resettlement area, show the H'mong death rate to be five times that of the non-Lao population.

Some of the heartbreaking cases I have witnessed:

- A woman on the West Coast, age 49, suffers from constant, terrible headaches. Her husband has pain in all his muscles. They have three children. The other eight were killed in gas attacks or in fighting.
- A 33-year-old man lives in a rundown apartment in a Midwest city. He moves slowly and has obvious difficulty breathing. "If I stand up or sit down fast, I faint," he says.
- In a housing project, also in the Midwest, a 24-year-old man suffers from heavy coughing and shortness of breath, and complains, "After the gassing, my mind is slower."

These are the survivors, the lucky ones, but also the pathetic, lonely victims of chemical warfare. "Few Americans know who we are, what we did for the United States during the Vietnam war," says one young H'mong man. "Many think we are Vietnamese or 'boat people.' Many of us still suffer from being gassed, but American doctors either don't believe us when we try to tell them or never ask us about our life in Laos."

"Why aren't Americans concerned about the gassing?" the H'mong ask. The answer, in large part, lies with the U.S. State Department's position that no "conclusive evidence" exists that gassing is occurring in Laos.

Consider the State Department's response under both the Carter and Reagan administrations to those who have asked about the gassing of the H'mong. The letter, still being mailed out as this article went to press, fails to acknowledge the H'mong as U.S. allies. It presents instead the Pathet Lao (communist) government's propaganda, without comment or explanation:

> The Lao government has used a combination of persuasion and force to bring the H'mong out of their highland homes to new settlements in the lowlands. The Lao government argues that the H'mong method of agriculture destroys valuable hardwood forests, Laos' principal natural resource. The Lao also argue that, by bringing the H'mong population to the lowlands, the government can better limit the production of opium, a principal H'mong crop which supplies the heroin markets of the world through illicit channels.

Those unfamiliar with Laos could infer from this official letter that the H'mong were wretched

traffickers of heroin and conclude that gassing might be their just deserts. To be sure, the H'mong did grow opium poppies—opium has long been used medicinally by many tribal groups in Southeast Asia. But H'mong tribespeople do *not* convert poppy sap into heroin or traffic it through the illicit drug channels of the world.

Anyone who has studied the H'mong, from U.S. Drug Enforcement Agency investigators to on-the-scene diplomats, knows that these people are not involved in the heroin business. "Associating the H'mong with heroin is a part of the Big Lie," says former U.S. ambassador to Laos G. McMurtie Godley.

The State Department letter continues:

> ... By 1978, the United States had enough information to bring the matter [of chemical warfare] to the attention of the government of Laos, which denied the validity of the reports. We received the same response when we asked the Soviet and Vietnamese governments to look into the reports and end the practice if true.

Did our government really expect the Lao, Vietnamese or Soviet governments to acknowledge the use of chemical warfare—a practice banned by international treaty and abhorred by most of the world?

Eyewitness Testimony. A 1980 State Department publication, "Country Reports on Human Rights Practices," says of Laos: "During the past three years, there has been limited improvement in some aspects of human rights. There is no evidence that the government is seeking to destroy any particular ethnic group, per se, such as the H'mong. There have been numerous refugee accounts of attacks using lethal chemical agents against the H'mong. . . . This charge has been denied by the Lao government." That is the only reference to the use of chemical agents in the entire section on Laos.

Not surprisingly, Gen. Vang Pao and other leaders of the H'mong community in this country are appalled by the report. "There has been overwhelming evidence of the gassing of men, women and children in Laos for years," says the general. "Yet the State Department not only avoids the subject but doesn't recognize the fact that my people are being eliminated because we were the U.S. allies in Laos."

While the State Department keeps telling the inquiring public, including members of Congress, that there is no "conclusive evidence," it fails to mention its *own* recently prepared report, which records the testimony of scores of eyewitnesses to chemical attacks in Laos, documenting over 13,000 dead from gassing.

And if that were not enough, evidence is now available from the communist side itself. For example, last November, a Pathet Lao pilot who defected to Thailand admitted flying numerous gas missions between 1976 and 1978 to "cause the

H'mong people to die out completely." He adds that pilots flying these missions were granted special privileges and were closely monitored by doctors and nurses after each mission.

Will the Reagan Administration continue to honor the avoid-the-H'mong policy generated during the Carter years? In a meeting with several members of the foreign diplomatic corps, John Holdridge, newly appointed Assistant Secretary of State for Asian and Pacific Affairs, said that the United States has no evidence to bring to "court" on the reported gassing in Laos.

Yet, human and moral considerations aside, the chemical agents used against the defenseless H'mong should be of considerable national-security concern to the United States. The fact is we don't know what these agents are. Even Defense Department experts are baffled. Victims suffer from profuse bleeding from the nose, throat, eyes, stomach and intestines—resulting in death by hemorrhaging.

Recently, I spoke with Col. Charles W. Lewis, M.D., a member of the Department of Army Surgeon General's team sent to Thailand in 1979 to interview survivors of chemical attacks in Laos. I asked what chemicals he thought could be causing such profuse bleeding. "That's what I want to know," he said. "I hope someone is working on finding out. Nerve agents don't cause hemorrhaging. These are all new symptoms. When I returned from this investigation, I talked to people in the chemical-warfare business and no one knew. Everyone was surprised. We had better find out in order to be able to defend against them."

In early December 1980, the U.N. General Assembly by a vote of 78–17 adopted a resolution calling for a U.N. investigation into the use of chemical warfare in various parts of the world. Among those voting against the resolution were Laos, Vietnam, Afghanistan, the Soviet Union and Cuba. However, the project appears to be on the back burner, and in any case, Laos can reject U.N. requests for on-site investigations.

"Sudden Death." Meanwhile, the gassing attacks against the H'mong continue. H'mong who crossed into Thailand in February 1981 reported that between January 6 and 20, 1981, Soviet-made helicopters flew 20 chemical missions, killing 1260 H'mong friendly to the Pathet Lao. On April 2, 1981, a Soviet M-17 dropped yellow chemicals on Ban Thong Hak, killing 24 H'mong outright, including 11 children. Two weeks later, a H'mong party reached Thailand with samples of the chemical residue gathered from stones, ground and leaves. The samples were given to U.S. authorities on April 23 but didn't arrive in the United States until the second week of May.

Under the best of circumstances, a chemical analysis is difficult. Experts say that, since gas disappears into the atmosphere, samples gath-

ered from an exposed area may not contain any identifiable lethal properties. Incredibly, there is no U.S. team of chemical-warfare experts in Thailand to conduct on-the-spot analysis.

The H'mong in this country continue to suffer as well. In early 1981, the U.S. press picked up on the mysterious "sudden death" syndrome, and some public-health personnel became interested. But the interest is limited only to the sudden deaths. According to the Centers for Disease Control, there is no nationally coordinated plan to study the problem of the chronically ill H'mong who believe they are sick because of the gassings.

On the other hand, Richard Harruff, a doctor with special training in pathology who spent six months last year in a H'mong refugee camp in Thailand, is concerned about the long-range effects of the lethal agents used on the H'mong. According to Dr. Harruff's research on survivors who were exposed, "Males complain of impotence, and females report a high rate of spontaneous abortions. Infants born to exposed mothers are often very weak and lethargic, and die within a few days to months of apparent respiratory failure. These victims of unknown poisons need special care." Harruff is outraged that no one in the U.S. health community has systematically investigated the medical condition of those H'mong exposed to chemical agents.

What is the answer? What can—what *must*—be done?

- First, public hearings should be held before all relevant committees in the House and in the Senate, presenting the situation in its totality.
- Second, Secretary of Health and Human Services Richard Schweiker should designate an agency to alert all doctors to the potential H'mong health problems, to establish guidelines for conducting appropriate biopsies and treatments, and to establish a way for the H'mong exposed to the chemicals to report their problems.
- Third, the United Nations should be used as a forum to keep the issue of poison gas before the international community until it is resolved.
- Fourth, our government should tie any arms-control negotiations with the Soviets to their curtailment of chemical warfare by client regimes.
- Fifth, the Administration should assign the highest priority to the identification of these lethal agents. This is crucial in developing strategic defenses and medical treatment for those exposed.

For too many years, the United States has swept the gassing in Laos under a cover of words. Now, the problem is *our* responsibility and we must deal with it. "There is no place to hide from the poisonous rains." This H'mong saying has become our harsh reality.

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A Reader's Digest REPRINT

Behind the Lines

In October 80' Reader's Digest there is an article, "Gas Warfare in Laos: Communism's Drive to Annihilate a People," which should deeply trouble us all. It is not an easy subject to talk about, or even to think about. Put simply, the article describes and documents the extermination of a people by any means possible—including poison gas. The victims are the H'mong tribesmen of the mountains of Laos. During the Vietnam war they were our allies. When we left they were abandoned and forgotten.

Jane Hamilton-Merritt and a H'mong woman

Or all but forgotten. They still have a staunch ally in Jane Hamilton-Merritt, a reporter-photographer with a Ph.D. in Asian studies. Her intense blue eyes flash with anger when she describes the chemical warfare today being waged against the H'mong by the communists—and the U.S. government's nearly non-existent response to it. "Someone must lead," she says. "We cannot again sit by and let genocide take place. We let it happen in Cambodia; now we are letting it happen in Laos—to people who were our loyal allies for 15 years and are being killed for that reason."

Hamilton-Merritt grew up on a farm in Indiana, a long way from the refugee camps of northern Thailand where, for four years, she researched this story. But she has always been interested in the peoples of the Far East. During the Vietnam war, her dispatches from every corner of the war zone earned her a Pulitzer Prize nomination. She was on assignment in Laos when she first came across the U.S.-backed secret army composed of H'mong and other tribal peoples of Laos.

After the war, when it became apparent that the Vietnamese and the Pathet Lao were determined to exterminate the H'mong, she took

their cause as hers, collecting and sending their extraordinary needlework art on tour—primarily to raise consciousness about this continuing tragedy; lecturing, buttonholing Congressmen, making trip after trip to the refugee camps to gather testimony from survivors, taking photographs that reveal the horror of an unspeakable atrocity.

She describes her latest on-site research: "The misery of the new arrivals from Laos is appalling. They are starving. Two skeletal girls tell me they have eaten only roots for three years. The people suffer every disease known to man—and many that aren't. Worst of all are the gas victims—coughing blood, fighting for breath, slowly dying. And few *care*."

During the sweltering monsoon days of June and July, Hamilton-Merritt interviewed dozens of H'mong who had managed to elude the Vietnamese and Pathet Lao and cross the Mekong River into Thailand. At night she slept in the camps, wherever she could, covered only with mosquito netting scrounged from Thai guards. Her task: to update her wealth of information on the gassing. Her story combines a passionate concern for the H'mong people, and the cold logic of a professional war correspondent.

"In some ways," she says, "it seems almost too late to become involved, because so few remain alive. But we must. We must *struggle* to find ways to help. Listen to what Vang Yee, a H'mong chief, said to me: 'We H'mong fight, work like buffaloes, flee, starve and die. And nobody knows.'"

On an earlier visit to Ban Vinai refugee camp last January, Hamilton-Merritt was invited into a "temple" made of bamboo, mud and vines. "We had a giving-of-thanks for their survival," she reports. "Then each H'mong tied a wispy string around my wrist and knotted it. There was a message behind each one: 'Please tell about the gassing.... Please tell my American friends I am the only one left in my family.... Please tell our story.'"

Hamilton-Merritt vowed to wear this "bracelet of conscience" until the messages were delivered, the story told. It has been on her wrist for ten months. With the publication of her story, we think you will agree that she has kept this faith.

—THE EDITORS

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GAS WARFARE IN LAOS:

Communism's Drive to Annihilate a People

The article that follows is about genocide—the extermination of thousands of people whose only "crime" is that they were friends of America.

By Jane Hamilton-Merritt

THE PLACE is not a pretty sight. I.V.s drip fluid into skinny arms. Doctors and nurses scurry from one wooden-slab bed to another, responding to pleas for help. I am at Ban Vinai, a refugee camp along the Mekong River just inside northern Thailand. It is populated by some 35,000 H'mong (pronounced Mōng) tribal refugees from the mountains of Laos. They suffer from severe malnutrition, malaria, amoebic dysentery, tuberculosis, pneumonia and a host of parasites. For many there is a tragic complication: they have been gassed.

One of them is a friend of mine; yet I don't recognize him, although I

have passed his pallet at least 20 times. Finally, through his pain, he recognizes me and sends a relative to bring me to him.

Nhia Yang Vang, about 40, had once been vigorous, energetic. Now he is a skeleton with sunken, haunted eyes. In a weak voice he tells me he had returned to Laos after I saw him in January. Concerned about relatives, he had gone back there with a party of 19 men for three months. During that time, he says, his team had been in areas sprayed by poisonous chemicals nine times.

Every few minutes his talk is broken by a racking cough that nearly strangles him. He spits bloody sputum into a tin can. A H'mong nurse tells me that he has chest pains, finds breathing difficult, cannot eat.

Nhia continues: "They hit us at the end of May at Nam Khing with the yellow chemicals. It was a white plane like a Soviet helicopter—low enough so that I could see the figures of two pilots. Immediately when they dropped the gas I fell to the ground vomiting blood. My eyes burned; I could not see. I have the 'red' diarrhea.

"It was a powder. When it touched my skin it became sticky, like an ointment, and when water is put on it, it becomes liquid." He stops for another bout of coughing. "You know, after a rain the chemicals will get into the water and poison it. Now that it is the rainy season, it will be so easy to poison us all."

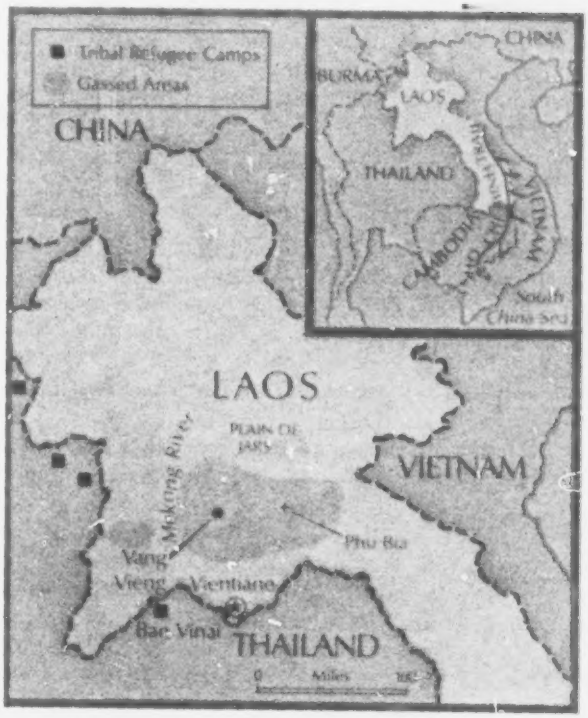
"Just Like the Jews." In 1960, there were at least 500,000 H'mong in Laos. Today, perhaps 70,000 are still alive there, many of them sick or dying of malnutrition. Another 50,000 are in Thai refugee camps, and some 35,000 have been resettled in Western countries. The H'mong survivors in Laos now face a terrible future, for they are the targets of a deliberate, calculated policy of extermination.

This policy is the tragic heritage of the H'mong commitment to America's effort to prevent a communist takeover in Vietnam and Laos. The United States, unwilling to send its own troops into Laos, opted for another kind of army—a guerrilla army recruited mostly from the H'mong, but also from other Laotian tribes, such as the Yao, Lahu, Lao Teung. Trained by the U.S. military and the CIA, the H'mong formed the backbone of the resistance against the communist forces in Laos that were supported by North Vietnam, China and the U.S.S.R. They sabotaged war supplies moving south along the Ho Chi Minh Trail, and rescued American pilots shot down in Laos. They proved adept at intelligence work, gathering vital information on troop, tank and supply movements.

Gen. Vang Pao, who commanded the H'mong forces and now lives in the United States, told me recently that his forces destroyed millions of dollars' worth of military equipment, medical and food supplies moving down the Ho Chi Minh Trail into South Vietnam between 1962 and 1975. "To do that," he said,

"my people gave 12,000 lives. All of that was secret, but now I want the American people to know."

When the Americans pulled out of Vietnam and Laos, the H'mong—and the sacrifices they had made—remained largely unknown. But the Vietnamese and Pathet Lao did not forget. Li Chai, who now lives in Denver, Colo., and is a leader of the H'mong refugee group there, tells why: "The communists know that we were the Americans' hands, arms, feet and mouths. That's why they believe they must kill all H'mong—soldiers, farmers, children. We suffer and die just like the Jews in World War II, but the world ignores us."



Hide in Caves. Gen. Vang Pao says, "Communist gassing of the H'mong people began in August 1975, at Mung Om and Nam Fen, south of Phu Bia, where 17,000 men, women and children were killed. I learned from a Pathet Lao defector that from 1975 to 1978 the gassing had killed 50,000 H'mong in the Phu Bia area alone. During that time some 45,000 died from starvation and disease, or were shot trying to escape to Thailand."

Today, in tribal refugee camps in northern Thailand, H'mong refugees tell of starvation, rape, the crippling of children whose fathers worked for the United States, of massacres. But what frightens them most are the poisons, which they call "rain," "gas," or "smoke," for they cannot hide from the chemicals that poison them, their water, animals, plants and fields.

Survivors speak of several kinds of "rain." Yellow and red are very serious, and a direct hit means sure death. Green and blue-green rains

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are not as immediately lethal. A small bit of opium often enables victims to survive, but they suffer vomiting, bloody diarrhea, fever, bleeding through the nose, and dizziness.*

Recently, still another chemical, a light-yellow powder, has been dropped by four-engine planes or by helicopters. The latter, a U.S. military spokesman tells me, resemble Soviet MI-4s or MI-8s.

A H'mong farmer, looking much older than his 40 years, says: "For two years they attack my area in Laos. The planes cover us with red smoke, and the people and animals die. We cannot grow rice or farm. We must hide in caves.

"They drop poison on us 200 times in 1978 and 1979. The first time five people die immediately. Red smoke rolls over the area and everyone is sick. It smells like burning rubber. I swallow a bit of opium, but slide to the ground unable to move. In about an hour I can get up, but I cannot eat or drink. I become very skinny. Twelve more people in my village die of being skinny."

Chronicle of Horror. The stories are countless. One man sits before me in Ban Vinai refugee camp in Thailand carrying "evidence" of the continued gassing in Laos. Trained by the Americans in intelligence in the 1970s, this former H'mong lieutenant had crossed the Mekong River to Thailand on June 6. From a miniature diary that he miraculously managed to bring, he quietly reads:

"On 15 May 1980, two Soviet helicopters dropped yellow powder on a H'mong village of 200 at coordinate TF 9376. Thirty-five died within seven days; the remaining are very sick."

He recites another attack. Then, carefully turning the tattered pages of his diary to check dates, figures and locations, he chronicles what happened to him after the American withdrawal from Laos in April 1975:

"The first gas attack was in October 1975. The communists couldn't take our village by fighting, but they came back with airplanes. One carried red gas, another yellow. Those near where the chemical rockets exploded fell unconscious, with bleeding from the mouth and nose. Many died. Soon afterward a yellow water flowed from their bodies.

"They hit us with gas for three days. Seventy-five people died immediately. Five hundred more died within a short time. I was lucky, for I was not in the village at the time.

"For three years we were constantly attacked like this. We must live in the jungle like animals. Since early 1980, people are so hungry that they eat leaves exposed to the chemicals, and 715 people have died in my area. I dig in the ground for roots and water, but many are too weak to do this. We have no cloth to cover our bodies from mosquitoes, so we all have malaria. We have no medicine, so we are all sick."

Shot in the Arm. On a visit to Thailand in January, my friend Nhia

*Opium has for centuries been used medicinally for severe gastro-intestinal disturbances.

Vang, who had just escaped from a Vietnamese prison camp in Laos, told me a story not only of genocide, but of an added horror: medically supervised experimentation that uses chemical agents on imprisoned H'mong men, women and children:

"In November 1978, a Vietnamese force of 3500 captured about 1200 H'mong men, women, and children—including mine—in the jungle where the red and yellow smoke had forced us to live. We were taken to a camp called Tong Mien, which held 2000 H'mong prisoners. We were given only a small portion of rice every 15 days, and many of my people were shot trying to get to the forest for food.

"Then, on March 25, two MiG jets flew low over our prison camp and sprayed us with white rain. One hundred people died immediately. The rest of us had diarrhea for 20 days, then fever; we cannot walk or raise our arms. Many more people die.

"In May, four Pathet Lao medics gave injections in the arm to 30 H'mong, including me. It was the color of water. I immediately became dizzy and could not breathe. Blood spurted from my nose and I fell to the ground unconscious. A relative blew opium smoke over me for several hours and finally the bleeding stopped. In 12 hours I could see again and by the next day I could walk.

"The next day four new medics came. This time they had injections and pills for 40 gassing victims. Some medics gave my people injections and green pills, others injections and white pills. Nothing happened for 12 hours; then they have trouble seeing, can't speak and black out. Fifteen died; the rest are very sick for a long time. The medics wrote reports on the people given medicine."

JANE HAMILTON MERRITT

H'mong women, clad in traditional dress, who escaped to Thailand before the gassing began

WHAT HAS BEEN the response of the United States to these atrocities? In my view, it has been appallingly weak and ineffectual.

The House Subcommittee on Asian and Pacific Affairs has taken testimony on the gassings. And the State Department and Department of Defense have made their own investigations. But they and other U.S. officials, including those in the

White House, refuse to acknowledge that the evidence is conclusive.

After listening to testimony at the subcommittee hearings in April, Congressman Jim Leach (R., Iowa) stated: "I personally interviewed these refugees. I read State Depart-

JANE HAMILTON-MERRITT

Newly arrived from Laos, a starving child illustrates the plight of the H'mong

ment and Defense Department reports which are so numerous and so persuasive that they cannot be denied. No one in the White House ever saw a person being gassed in Auschwitz, but we know it occurred. I think this Administration has a moral responsibility to tell the people of the world what is happening."

Urgent Mission. What government agencies want for "conclusive evidence" is a body for autopsy. But there are serious logistical difficulties in obtaining recently gassed victims and fresh chemicals because the gassing occurs in the remote mountains of Laos, many days' walk through enemy territory to the Thai border. One H'mong found a dispensed gas canister, wrapped it heavily in old clothes, and started to walk it out of Laos to Thailand. The chemical residue in the canister killed him before he reached the Mekong.

I asked Vang Neng, H'mong chief at Ban Vinai, about the U.S. insistence on having a body for autopsy. In a voice of frustration and anger, he said, "Yes, I have bodies for autopsy. I learned yesterday that the communists gassed a village on May 14, killing ten immediately. This is many days' walk from the Mekong. By the time we carry one body out, it will be spoiled."

Last fall, a step in the right direction was made when a team from the office of the Army Surgeon General was sent to Thailand to investigate the gassing allegations. They interviewed 40 men, two women and a 12-year-old girl, all of whom were witnesses to, and survivors of, gassing attacks in Laos, and concluded in a report withheld from the public that chemical agents had been used against the H'mong. Two recommendations were: to "develop a plan whereby blood, tissue or other specimens may be rapidly transported from the suspect area to the Bio

medical Laboratory for analysis, and to establish a medical team, on a standby basis, prepared to travel to the site of future allegations to conduct interviews/examinations." The final recommendation read: "From a military defense position, it would seem to be an extremely urgent mission to initiate every effort possible to identify the chemical agents that have been used and to develop appropriate countermeasures, antidotes, etc."

Unfortunately—indeed, unbelievably—those recommendations have been ignored. On June 30, 1980, I reported to the U.S. embassy in Bangkok that I had located two men in a refugee-camp hospital who reported being gassed in the latter part of May. The timing for testing was within the six-week limit recommended by the Surgeon General. After 14 days of evasive and false information by the embassy and other U.S. officials in Thailand, I returned to the camp myself to speak directly to the two men recently gassed and to the camp medical personnel.

Only then did I learn that medical experts familiar with gassing had not conducted the investigations. We had sent a Thai nurse and an American public-health worker, who admitted he was a "novice" with regard to chemical warfare and, in his own words, had "very little" instruction even in how to collect samples. When I left Bangkok on July 18, the specimens were still there.

"Will You Help?" While the West refuses to acknowledge the use of lethal chemical agents by the Soviet-backed regimes of Hanoi and the Pathet Lao, the Vietnamese government applauds its army's chemical-warfare branch by awarding it a Ho Chi Minh medal. According to Hanoi radio monitored in Thailand in April 1980, Gen. Le Trong Tan told the unit: "Chemical weapons contributed to winning the great victory in the great anti-U.S. salvation resistance struggle" and in "tasks in the new situation." The "new situation" undoubtedly refers to Laos, Cambodia—and possibly to Afghanistan.

The State Department calls evidence suggesting a Soviet role "circumstantial," but it is more than that. Independent intelligence sources have confirmed the presence of Soviet Gen. V. K. Pikolov's chemical-warfare forces in Laos —and subsequently in Kabul, Afghanistan. In addition, Soviet chemical-warfare experts are said to have visited several cities and areas in Laos to inspect "chemical explosives"—artillery shells, bombs, rockets. In sum, it is hard to escape the conclusion that the Soviets are involved, certainly in the production and distribution of chemical agents, and probably in on-site surveillance and medical experimentation.

Meanwhile, the H'mong continue to die. A H'mong leader who is responsible for almost 30,000 civilians in Laos recently crossed into Thailand. His words haunt me: "I have come to see if anyone has food, clothing or medicine to protect us from the gassing. Someone *must*

help, soon, or we will all die. We are friends of the Americans. We fought for freedom. Will you help?"

Will we? How?

First, a fully publicized Congressional hearing—both Senate and House—into the gassing of the H'mong should be held. This would inform the U.S. people and attract world-press coverage of the atrocity. And the U.S. government should make communist gas warfare a major issue before the United Nations and every international forum.

Second, direct pressure should be applied on Hanoi by Free World industrial nations on whom Hanoi greatly relies for the technology and financial aid to rebuild Vietnam. This must be done at the highest private "hot-line" leader-to-leader level. Hanoi should be told that this inhuman policy must stop or aid will be halted.

Finally, since Vietnam is a client state of the Soviets (apparently the source of the lethal chemicals), the United States should inform the Soviets that any discussions of other issues will be put off until we are satisfied that chemical warfare in Laos has ceased.

AT BAN VINAI CAMP, Vang Chue, an 18-year-old boy who has been gassed, is carried into the hospital. His chest heaves with erratic contractions and he struggles to breathe. His face is heavy with sweat and I see a tear looming—the first H'mong-soldier tear that I have ever seen. I lean down to talk with him.

"I'm so sorry that my country is dying," he says in a voice of pain. "Please do something."

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U.S. DEPARTMENT OF STATE,
Washington, D.C., October 1, 1981.

Mr. THOMAS BUSH,
96 Stanley Road,
Hamden, Conn.

DEAR MR. BUSH: Your message to Secretary Haig concerning the Hmong of Laos has been referred to me for reply. I sincerely regret the delay in this response.

The Government of Laos, aided by Vietnamese troops, has waged campaigns since 1975 to bring the Hmong tribespeople under control. The Hmong, who traditionally have maintained an autonomous existence in northern Laos, have fought back using small arms and ammunition that they had stored in the mountains.

The Lao Government has used a combination of persuasion and force to bring the Hmong out of their highland homes to new settlements in the lowlands. The Lao Government argues that the Hmong method of agriculture destroys valuable hardwood forests, Laos' principal natural resource. The Lao also argue that, by bringing the Hmong population to the lowlands, the Government can better limit the production of opium, a principal Hmong crop which supplies the heroin markets of the world through illicit channels. The Lao and Vietnamese military forces dealing with Hmong who refuse to resettle under Lao Government control reportedly have used very harsh measures, often against civilians. There have been widespread reports that the Lao and Vietnamese forces are using poison gas, or other toxic chemicals, against the Hmong in some remote areas.

The United States is deeply concerned about the plight of the Hmong. For some years, the U.S. Government has been aware of these reports that chemical agents may have been used in Laos against dissident minority groups, and has sought to gather more imformation. By 1978, the United States had enough information to bring the matter to the attention of the Government of Laos, which denied the validity of the reports. We received the same response when we asked the Soviet and Vietnamese Governments to look into the reports and end the practice if true. In addition to our regular interviews of refugees, we sent two teams to the refugee camps in 1979 specifically to investigate this matter.

Reports of incidents have continued, with the latest attack reportedly occurring in 1980. In view of this, U.S. officials have expressed our deep concern over the use of chemical weapons in Laos and other countries before international organizations like the United Nations and the International Committee of the Red Cross. We have asked these bodies and other countries to be alert for information that would bear on these reports, and to use any information they might have to oppose the use of chemical weapons. In addition, Department of State officials have testified before the Congress on this issue twice since December, 1979.

The U.S. Government cannot confirm or conclusively disprove reports of the use of chemical weapons in remote areas where we have no presence, such as the areas reportedly affected in Laos. However, the issue is sufficiently serious and the reports significant and credible enough to warrant a thorough, impartial international inquiry. As you may know, the United Nations General Assembly on December 12, 1980, adopted a resolution establishing such an investigation. The U.S. strongly supported that effort, and we will be working to ensure it is conducted as thoroughly as possible. Whether these particular reports are true or not, the entire international community has as interest in seeing that chemical warfare is not used.

We will continue to exercise what influence we have in Laos to press for protection of the human rights of the Hmong.

Sincerely,

FRANCIS TERRY MCNAMARA,
Acting Assistant Secretary for Public Affairs.

DEPARTMENT OF STATE,
Washington D.C., November 7, 1980.

Mr. MARK W. MCBRIDE,
32 Dix Street, Apartment 2,
Hamden, Conn.

DEAR MR. MCBRIDE: Your message to President Carter concerning chemical warfare in Laos has been referred to me for reply.

The Government of Laos, aided by the Vietnamese, has waged campaigns since 1975 to bring the Hmong tribes people under control. The Hmong, who tradition-

ally have maintained an autonomous existence in northern Laos, have fought back using small arms and ammunition that they had stored in the mountains.

The Lao Government has used a combination of persuasion and force to bring the Hmong out of their highland homes to new settlements in the lowlands. The Lao Government argues that the Hmong method of agriculture destroys valuable hardwood forests, Laos' principal natural resource. The Lao also argue that, by bringing the Hmong population to the lowlands, the Government can better limit the production of opium, a principal Hmong crop which supplies the herion markets of the world through illicit channels. The Lao and Vietnamese military forces dealing with Hmong who refuse to resettle under Lao Government control reportedly have used very harsh measures, often against civilians. There also have been widespread reports that the Lao and Vietnamese forces are using poison gas, or some other toxic chemical, against the Hmong in some particularly remote areas.

The United States is deeply concerned about the plight of the Hmong. For some years, the U.S. Government has been aware of these reports that chemical agents may have been used in Laos against dissident minority groups, and has sought to gather more information. By 1978, the United States had enough information to bring the matter to the attention of the Government of Laos, which denied the validity of the reports. We received the same response when we asked the Soviet and Vietnamese Governments to look into the reports and end the practice if true. In addition to our regular interviews of refugees, we sent two teams to the refugee camps in 1979 specifically to investigate this matter.

Reports of incidents have continued, with the largest attack reportedly occurring in May 1980. In view of this, U.S. officials, including Secretary Muskie, have expressed our deep concern over the use of chemical weapons in Laos and other countries before international organizations like the United Nations and the International Committee of the Red Cross. We have asked these bodies and other countries to be alert for information that would bear on these reports, and to use any information they might have to oppose the use of chemical weapons. In addition, Department of State officials have testified before the Congress on this issue twice since last December.

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We will continue to exercise what influence we have in Laos to press for protection of the human rights of the Hmong.

Sincerely,

WILLIAM J. DYESS,
Assistant Secretary of State for Public Affairs.

OMAHA, NEBR., *November 11, 1980.*

DEAR DR. HAMILTON-MERRITT. I am enclosing two letters which I received today from Senator Zorinsky. One apparently is dictated by an assistant; the other is from the State Department. I wrote Zorinsky as soon as I read your article in Reader's Digest, and he responded immediately, saying he would check with the State Department and find out what was going on with the Hmong. Then he sent me this.

I am really angry. I did not ask to be educated. I sent a copy of your article and a strong but courteous letter asking the Senator to help get something in front of the United Nations to help the Hmong. We have quite a few Hmong in Omaha, and many are my good friends. It took a while for us to get to know and trust each other, but I think I now know enough to say that the letter from the man at the State Department is pure bull. You'd think we never were in Laos.

I will, of course, respond to Zorinsky's assistant or Zorinsky or someone—but not today. I understand a fraction of your frustration, and I want you to know that some people care when they are informed. It is impossible for my Hmong friends to believe that most Americans never heard of them. I wonder if Zorinsky ever heard of them. For what it's worth, the Hmong in Omaha seem to be doing pretty well. I love them.

I am an ex-Marine who became an English teacher. I want to scream at the "civility" of J. Brian Atwood's letter when he, at least, must know the Hmong are being slaughtered.

STANLEY BALDWIN.

DEPARTMENT OF STATE,
Washington, D.C., November 4, 1980.

Hon. EDWARD ZORINSKY,
U.S. Senate.

DEAR SENATOR ZORINSKY: Thank you for your inquiry of October 7 on behalf of concerning the Hmong of Laos.

The Government of Laos, aided by the Vietnamese, has waged campaigns since 1975 to bring the Hmong tribespeople under control. The Hmong, who traditionally have maintained an autonomous existence in northern Laos, have fought back using small arms and ammunition that they had stored in the mountains.

The Lao Government has used a combination of persuasion and force to bring the Hmong out of their highland homes to new settlements in the lowlands. The Lao Government argues that the Hmong method of agriculture destroys valuable hardwood forests, Laos' principal natural resource. The Lao also argue that, by bringing the Hmong population to the lowlands, the Government can better limit the production of opium, a principal Hmong crop which supplies the heroin markets of the world through illicit channels. The Lao and Vietnamese military forces dealing with Hmong who refuse to resettle under Lao Government control reportedly have used very harsh measures, often against civilians. There also have been widespread reports that the Lao and Vietnamese forces are using poison gas, or some other toxic chemical, against the Hmong in some particularly remote areas.

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The U.S. Government cannot confirm or conclusively disprove reports of the use of chemical weapons in remote areas where we have no presence, such as the areas reportedly affected in Laos. However, the issue is sufficiently serious and the reports significant and credible enough to warrant a thorough, impartial—international investigation—a step we have called for and would welcome. Whether these particular reports are true or not, the entire international community has an interest in seeing that chemical warfare is not used.

We will continue to exercise what influence we have in Laos to press for protection of the human rights of the Hmong.

Sincerely,

J. BRIAN ATWOOD,
Assistant Secretary for Congressional Relations.

[From the New Haven Register, Feb. 25, 1980]

WORLD SITTING IDLY BY, ALLOWING GENOCIDE TO TAKE PLACE IN LAOS

(By Jane Hamilton-Merritt)

"Every day I listen to the Voice of America broadcast from Washington and never do I hear about a plan to stop the flow of refugees. All I hear is how many more refugees the U.S. will take or when the 7th Fleet will pick up Vietnam's 'boat people.' Where is the plan to stop Hanoi's policy of creating refugees? Where is the plan to stop Hanoi from gassing my people? Where is the plan to remove Vietnam from my country so that my people can go home? Most tribal people do not want to go to third countries. Life is too difficult for us in the West."

So spoke an impressive 30-year-old H'mong resistance fighter—Chao Faa, as they call themselves—who now resides in a refugee camp in Loei Province in northern Thailand.

These sentiments are echoed not only from tribal refugee camps strung along the Thai-Lao border but from Thai officialdom, Thai people and from other Southeast Asian spokesmen.

"Why isn't the world recognizing that Vietnam has an official policy of dumping human cargoes on its enemies to create economic and social chaos?" asks Thanat Khoman, former Thai foreign minister and now a member of Parliament. While he and others call on the world to stop this extraordinarily cruel tactic of "dumping human cargoes" and to adopt measures that will ensure the end of such policy, U.S. agencies, both private and governmental, seem only interested in the band-aid approach—sending food supplies that would stop this endless train of human misery that stumbles out of Laos, Cambodia and Vietnam.

"Can't Americans see that refugees from here will never stop coming until the world demands that Hanoi stop the making of refugees?" questioned one H'mong tribal chief. "First you take the Vietnamese, then the Lao, then Chinese boat people, then you take the Cambodians and then you try to take the H'mong. After that you take the Thai people? America is not that big."

Vietnam's invasion and occupation of Cambodia is creating refugees of most of the few surviving Khmer people, be they followers of the murderous Pol Pot and his Khmer Rouge or the Free Khmer (Khmer Serei). Presently 800,000 Khmer people are reported hovering on the Thai-Cambodian border. U.S. officials here anticipate a possible movement across the border into Thailand. Thailand can't handle 800,000 more refugees. So is the U.S. going to take in almost a million refugees, many Khmer Rouge?

In Laos, the communist Pathet Lao and Vietnamese military, heavily armed by the Soviet Union, seem intent upon eliminating H'mong and other tribal people from Laos. The H'mong, along with the Yao, Lahu, Khamu, and other tribal groups, were the backbone of the U.S.-Lao-Thai military effort in Laos from the early 1960s through 1975. In fact, this was a secret operation and a secret army organized by the CIA.

Within months after the Pathet Lao took control of Laos, the H'mong and other tribal groups realized that it was not just another change of government, but a new policy of capturing, imprisoning and killing the minority groups who had fought for the U.S. during the Vietnam war. The H'mong continued their lonely and brave fight against the Pathet Lao, who were quickly joined by Vietnamese soldiers and supported in their efforts by the Russians.

Some tribal areas reported gassing as early as 1976. In the Long Chieng area, where 8,000 H'mong fled into the forest to fight, the gassing began early in 1978. According to one H'mong survivor from that area, "Early in 1978, the communists began to gas us from planes. First the gasses were red and green, then yellow and red. Many people died and those who did not die were very sick and weak.

"In April 1978, our intelligence team learned from a contact in the Pathet Lao that the Vietnamese and Soviets had a plan to poison gas all H'mong and Lao Teung to kill them before other countries knew that there was resistance in Laos," reported a H'mong survivor, age 29, who escaped with 458 people to Thailand after a five-month trek.

A H'mong soldier, a former company commander for the U.S. in Laos, chosen by his chief to escape a communist imprisonment of 2,000 H'mong to report to the world, reached Thailand in late December 1979. Emaciated with festering sores on his bare feet, he told of communist planes spreading red smoke on a H'mong area on June 15, 1979, killing nearly 2,000 people. He told of a fateful March 25, 1979, when two Soviet-built MIG jets sprayed white liquid, like rain, on him and all the H'mong in the imprisonment area where they were being held. The next day, another plane sprayed the people again. Nearly 100 people died immediately and all were sick with diarrhea, vomiting and fever. Many died later.

One H'mong chief, who just crossed to Thailand, reported seeing poisonous gasses being dropped on tribal areas in Sayaboury area as he was leading a group of 49 out of Laos.

Where have the responsible nations been since 1976 when this gassing began? Four years have passed and few, if any, voices of protest have been heard. Who will step forward to face this issue?

Someone must lead, for we cannot sit idly by and allow genocide to take place. Genocide took place in Cambodia and we did nothing. Genocide is taking place in Laos—against people who were loyal allies to the U.S. and Thailand for 15 years and who are being eliminated for just that reason—and still we do nothing.

We should have a full U.S. Congressional investigation into the gassing of the tribal people—people who fought bravely for us for so long. And we should support an international conference on the Southwest Asian refugee problems spearheaded by Association of Southeast Asian Nations. This conference should have the active support of all responsible nations and should investigate not only the gassing but develop measures that will force Hanoi to stop its policy of creating refugees.

[From the New York Times, Tuesday, Sept. 4, 1979]

Flight From Laos

(By Jane Hamilton-Merritt)

The plight of the H'mong, a hill-tribe people in Laos—or Meo, as the people are known in the Western press—is one of desperation. Little news about these people who fought so long for the Americans in Laos reaches that press. Meo refugee camps in Thailand are remote and inaccessible.

July 27, 1979. The river and freedom are in sight. A group of 189 Meo—30 men and 159 women and children—have endured a two-month trek through the mountainous high jungles of Laos, running from the Pathet Lao and Vietnamese soldiers.

Tonight, they sit by the edge of the Mekong River waiting for darkness to provide cover for a crossing into Thailand—the final obstacle to freedom. Adults have not eaten for many days to preserve food for the children. Small amounts of the remaining rice are forced into mouths of children—many only skeletons. Afraid to light fires for fear of detection by enemy soldiers, they wait in the monsoon darkness. Children are given more opium to keep them quiet: Any noise may alert soldiers known to patrol the banks of the Mekong searching for Meo trying to escape.

Meo who have escaped Laos tell of Pathet Lao and Vietnamese soldiers killing children for nothing, women for their silver necklaces, men because they are soldiers. They say that enemy soldiers take their rice, chickens and buffalo; that poisonous gases are dropped from planes on their villages and that their people die. They are convinced that the soldiers intend to kill all the Meo. Yet these Meo continue to fight the Communists in Laos although they have few weapons left and no meaningful support from outside.

July 28, 1979. At the darkest time of night, they cross the Mekong, only to discover as the dawn mists lift that they have miscalculated and have crossed at a very wide part of the river. They land on a long river island and still far from the Thai banks. Hurriedly the Meo gather vines to weave into ropes to attach to mounds of sand and patches of river reeds to make a link to shore and safety. There is so little time, for the river is rising noticeably and storm clouds hang over the mountains to the north. They could all drown if the river suddenly rose. Now that they believe themselves off Laotian territory and safe, they build fires to boil water in United States Army canteens. Women take off their blouses and, with sticks for frames, make shelters for the sick, babies, and old women.

Many Thai soldiers appear on the Thai bank along with a machine gun mounted on a jeep. Soon a patrol in two boats lands on the island to inform the Meo leader that the Meo must go back to Laos—they cannot cross into Thailand. The Meo tell the Thai soldiers that they will build bamboo rafts and leave during the night. Since the Thai side of the island is lower than the Laotian side, the Meo huddle on the lower side hoping that enemy soldiers from Laos will not see them.

Men and women cut bamboo from small clusters on the island while others continue to make survival ropes. In the afternoon, Thai soldiers in boats cut the vines, the Meo lifelines to freedom. Night falls and the Meo take up guard. They have no food and the river is rising.

July 29, 1979. Day breaks and they continue to build rafts, but not, as the Thai soldiers want, to cross back to Laos, but to continue downstream in hope of passing undiscovered into Thailand. All the Meo are convinced that if they are forced back to Laos they will be killed—including the children.

About midday, another American journalist manages to obtain a wooden boat from a Thai villager upstream and paddles to the island. The Meo leader gives him a note to take to Vong Yee, chief of the Meo residing in a nearby refugee camp, Ban Vinai. The note tells of their location and that the Thai soldiers will not allow them to go to the Thai police station (a standard debriefing procedure for new arrivals before allowing them to enter refugee camps), and requests urgent

assistance from the chief at the camp to obtain permission for them to enter Thailand.

July 30, 1979. The day is hot and there are many who are sick and starving. They eat grass and drink boiled water. Thai soldiers come again and insist that they leave tonight. The Meo explain they don't have enough rafts to ferry all the people, but the Thais insist.

July 31, 1979. The situation remains the same.

Aug. 1, 1979. Morning brings signs of another torrid day. The Mekong continues to rise. Thai soldiers remain vigilant. Many rafts have been built. The stranded Meo believe that Vong Yee will send help soon.

As I stood watching the Meo marooned on the island, I remembered the stories of so many Meo who, like those out there, had fled Laos under the most terrifying circumstances. Drumming in my mind were the words of one young Meo: "I feel sad for my wife. Her clothes are shreds and she's sick with malaria, yet she cares for my brother's five children. The youngest is four and he's so weak he can not stand alone; she must carry him. My brother and his wife are dead. His wife disappeared while searching for food. I often think of my American friends. They gave me their addresses but I've lost them. It seems so long ago that the Americans left—maybe four years, and now the fighting is even more difficult, with so few weapons and no one to help us. We Meo are all so tired. So many Meo are dead. We Meo people are so pitiful."

The Meo who fought under Gen. Vang Pao for the Americans in Laos against the Communists since the early 1960's find it difficult to accept that no one cares about them, hardly anyone writes about their tragedy, no American friends seek to help.

Aug. 2, 1979. A group of 30 to 40 Pathet Lao land on the island. Shooting breaks out and the Meo are massacred. It is not known whether there were any survivors. These 189 brave Meo men, women and children did not know that the island on which they had landed was Laotian territory.

After so long a struggle, freedom never came.

As Vong Yee, the Meo chief said to me: "We Meo fight, work like buffalo, run, starve and die—and no one knows."

[From the Bangkok Post, Sunday, Feb. 15, 1981]

GASSED!

(By Dr. Jane Hamilton-Merritt) [1]

When the Americans pulled out of Vietnam and Laos, the H'mong—and the sacrifices they had made—remained largely unknown to the world. But the Vietnamese and Pathet Lao knew and did not forget.

"The Communists know the H'mong well. They know that H'mong will always do what they say. H'mong never lie. They know we will stand by our commitment. The Communists know that we were the Americans' hands, arms, feet and mouths. That's why they believe they must kill all H'mong—soldiers, farmers, children. We suffer and die just like Jews during World War II, but the world ignores us," explains Li Chai, a H'mong refugee now living in Colorado.

Within months after the Communists took control of Laos, the H'mong and other tribal groups realised that this was not just another change of government but a new policy of capturing, imprisoning, and killing minorities who had fought with the U.S. and Thailand in Laos during the Vietnam War era. The H'mong soon fled their villages to hide in the forests. From there they continued a lonely fight against the might of the Soviet-backed Pathet Lao and Vietnamese. Soon after the fall of the Royal Lao Government, General Vang Pao, the charismatic H'mong leader of the U.S.-Thai trained and supported tribal force in Laos, was whisked out of the area. He along with some top assistants, were resettled in Montana. Despite being deprived of any outside support and the leadership of General Vang Pao, the H'mong continued to resist.

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[1] For much of the Vietnam War, the H'mong had greatly helped the American effort in Laos. With the war over and Hanoi in total control of Laos, systematic massacre of the H'mong began, with the Vietnamese using Russian-supplied gases and chemicals to start a horrific genocide of the H'mong.

Prize-winning photographer and journalist Dr. Jane Hamilton-Merritt brings her three part account to an end with an account of a holocaust on the hills which has resulted in the death of an estimated 50,000 H'mong in the Phu Bia area alone.

Unable to dislodge the tribal resistance by conventional means, the Communists began a programme of gassing—both suspected resistance elements and passive tribal settlements.

In a recent interview with General Vang Pao, he said "Communist gassing of the H'mong people began in August 1975 at Mung Om and Nam Fen south of Phu Bia where 17,000 H'mong men, women and children were killed by poisonous chemicals. I learned from a Pathet Lao defector that from 1975–78 the gassing had killed 50,000 H'mong in just the Phu Bia area. During that time another 45,000 died from starvation, disease, or were shot trying to escape Laos to Thailand."

H'mong survivors tell of forced starvation, raping and then killing of women, crippling of children whose fathers worked for the U.S., and of massacres. What frightens them most are the poisons which they call "rain", "gas", or "smoke" for they cannot hide from the chemicals that poison them, their water, animals, plants and fields.

Survivors, those on peripheries of gas attacks who have fled to Thailand, describe four kinds of chemicals. Yellow and red "rains" are very serious and if one is hit directly with either of these, one must die. The green and blue are not as immediately lethal.

Survivors report that when directly hit by poisonous "rains" blood spurts from the nose, there is profuse vomiting with blood, red diarrhea and the victim falls to the ground, writhes and dies. Apparently the bleeding is from the mucous membranes of the nose, lungs and gastro intestinal tract.

If not directly hit, H'mong say that if they can consume a small bit of opium[2] immediately, they may temporarily survive these gasses, but victims have bloody vomiting and diarrhea, fever, dizziness, difficulty in breathing, seeing and hearing, general weakness and an inability to eat and consequently become "very skinny" for a long time and eventually can die.

Recently, survivors tell of yet another chemical. This one is a light yellowish powder, like a soap powder, which is dropped at great heights from four-engine aircraft or at lower altitudes by a Soviet aircraft resembling the U.S. "Jolly Green Giant," the CH–53, the work-horse helicopter of the Vietnam War. A U.S. military spokesman said it might be an MI–4 or MI–8. (According to witnesses, the chemicals were delivered during the early years by artillery shells, then by small single-engine aircraft, and more recently by multi-engine aircraft, MiGs, and helicopters.)

A H'mong farmer, looking much older than his 40 years, scrubbed waxen clean for this interview, said: "I'm only a farmer and I'm always thinking that Laos has a big area for me to be a farmer, but the Communists make it too dangerous. For two years, they attack my area and so many people die. The planes cover us with red smoke, and the people and animals die. We cannot grow rice or farm. We must hide in caves.

"They drop poison on us 200 times in 1978 and 1979. The first time five people died immediately. Red smoke rolls over the area and everyone is sick.

H'mong Tell of "Rain of Death"

"It smells like burning rubber. I swallow a bit of opium, but slide to the ground unable to move. In about an hour I can get up, but I cannot eat or drink. I become very skinny. Twelve more people in my village die of being skinny."

He stopped and stared at the dirt floor for a few moments. "I'm only a farmer," he said, "but I think those new arrivals in the camp who are so skinny—I think they have been hit by the gas."

In a refugee camp infirmary, an emaciated 13-year-old girl sits woodenly with an IV in her skeletal arm. She was gassed in January, 1979, while working with four children in hill rice fields. She explained that the helicopter flew in low and bombs exploded with whitish-grey "fog" which knocked her to the ground and caused her to vomit blood. Her friends were very sick also. She has suffered severe coughing with bloody sputum since that time. She has severe pains in her joints and cannot walk well. She also admits, "I feel foolish in my mind since the gassing."

I watch as a nine-month-old baby hovers on the edge of death. His gassed mother stands pathetically by his side as para-medics massage his little heart after yet

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[2] For centuries opium has been used medicinally for severe gastro intestinal disturbances.

another heart failure. The baby's sickness remains undiagnosed. A doctor wonders if the baby's death is related to the effects of the gassing on the mother.

On a visit to Thailand in January, 1980, I interviewed a man who had just escaped from a Vietnamese prison camp in Laos who told a story not only of genocide but of an added horror: Medically supervised experimentation that uses chemical agents on imprisoned H'mong men, women and children.

"In November 1978, a Vietnamese force of 3,500 captured about 1,200 H'mong men, women, and children—including mine—in the jungle where red and yellow smoke had forced us to live. We were taken to a camp called Tong Mien, which held approximately 2,000 H'mong prisoners. We were given only a small portion of rice every 15 days. So we ate leaves in the camp area, then the leaves were gone. The communists put up stakes and said that no one could go beyond them. But my people were very hungry so we tried to go to the forest for food, but any man who tried to pass the sign was shot. Many were dying of hunger so the women tried to go to the forest. If women went beyond the signs, they were not killed, but the soldiers did bad things (sexual assault) to them. Sometimes we could get a bit of food this way.

"Then, on March 25, 1979, two Mig jets flew low over our prison camp and sprayed us with white rain. One hundred people died immediately. The rest of us had diarrhea for 20 days, then fever. We cannot walk or raise our arms. Many more people die.

"In May, four Pathet Lao medics gave injections in the arm to 30 H'mong, including me. It was the colour of water. I immediately became dizzy and could not breathe. Blood spurted from my nose and I fell to the ground unconscious. A relative blew opium smoke over me for several hours and finally the bleeding stopped. In 12 hours I could see again and by the next day I could walk.

"The next day four new medics came. This time they had injections and pills for 40 gassing victims. Some medics gave my people injections and green pills, others injections and white pills. Nothing happened for 12 hours; then they have trouble seeing, can't speak and black out. Fifteen died—five adults and 10 children; the rest are very sick for a long time. The medics wrote reports on the people given medicine.

"Our chief asked the medics about the medicines, but they say they know nothing, only that the government sent the medicine and that it had come from another country. They wouldn't tell us which country."

Another survivor, age 29 and a soldier since 17, in a sombre voice recalled for me his life in Laos after the communist take-over. He had been a Forward Air Guide directing air strikes in the long Chieng area and had survived multiple communist attacks. As an assistant leader of a group of refugees, he and 484 people, including his wife and two small children survived the five-month trek out of Laos.

"For the first few months after the Pathet Lao took over, we H'mong thought it was only another change of government. During that time, the Pathet Lao ordered all tribal people to turn in their weapons. Then when they thought we were without weapons, they tried to capture us. In Long Chieng, the Pathet Lao ambushed H'mong villagers but said that the H'mong were responsible for the ambush and therefore all H'mong must be captured and punished for such actions.

"By September, 1975, we were very afraid of the Pathet Lao and we fled to hide in the forest. We dug up the few weapons that we had hidden. Soon, the Communists sent in bombs, Soviet tanks, heavy artillery, and troops—including Vietnamese soldiers. In 1976, the Communists began to drop poisonous darts or nails from rockets which exploded on the ground shooting thin, inch-long barbed darts in our bodies. If hit in the stomach, neck or chest with just one of the poison darts, the person must die. If hit in the arm and the person could get the barbed nail out quickly, he would still be very sick for many weeks.

"My younger cousin, 18, was hit by two darts in his left leg about six inches above his knee, making two small holes. For three days, the holes bled a lot. He could not eat; he could not walk; his eyes were no good, he said-everything looked yellow. He could not move the side that was shot. He died in three months. The day he died, he was very black, very skinny and his body was swelling.

"The Communists attacked every day, every month from 1976 to 1978 and still we resisted.

"Then in early 1978, the Communists began to gas us. At first red and green gas, later yellow and red. Many people died. In April 1978, we learned from the Pathet Lao that the Vietnamese and Soviets would try to poison gas all H'mong

and Lao Teung to kill them before other countries know that there is resistance in Laos."

In September, 1978, the Vietnamese attacked Phu Bia—a mountain where some H'mong had retreated—in full force scattering the H'mong and their families. His family was lucky; they were not separated as many were. Eventually, he and his family met up with other survivors—mostly White H'mong with 40–50 Blue H'mong and five Lao Teung—who decided to try to escape Laos.

"Many, many people were sick in our group, but we decided not to leave anyone behind who was alive. So the sick and starving were tied to our backs with strings and we changed carriers every 15 minutes. We carried only canteens, a few weapons, matches, a few pans, a few blankets and a map. We had no shoes and no compass. Men wore parts of tattered U.S. military uniforms. The women threw away their brightly coloured belts for fear the enemy might spot the colours.

"Only three times in the five months did we find rice. Once we located a H'mong resistance group who gave us enough rice for 12 days. Everyone who was able carried rice. I carried 40 kilos (same as his weight) of rice on my back and my small son. My wife carried 20 kilos and our baby strapped to her back.

"Another time, we found some H'mong in a Pathet Lao controlled village. We tried to contact them, but they couldn't get out to talk to us, so we stole enough rice for seven days. Then there was nothing to eat but whatever we found in the forest and the streams.

"When we walked, we walked in silence. Often the women and children were much afraid. Whenever we neared a road or trail, we mixed small quantities of opium with water and gave it to the children. One crying child could cause us all to die.

"One day, the enemy came very near and all children were given opium. My uncle's five-month-old baby son continued to cry so we had to give him a second dose which is very dangerous. There was no choice. He died in three days. My uncle dug a hole, put dirt on top of his baby, and we moved on.

"It was dangerous to move because the enemy was everywhere. We didn't know the way to Thailand and our course continued to change to avoid enemy soldiers. Often we climbed the bamboos on the highest mountains to try to find the way. We looked at the map, looked at the land, studied the sun, moon and stars—and then guessed which way to go."

On February 20, 1979, five months after they began their escape, this group arrived on the Lao bank of the Mekong River. During the night of the 20th, men, women, and children worked feverishly to build bamboo rafts because scouts reported enemy troops near-by. They had only the hours of darkness and maybe less to get all people across the river before being discovered and slaughtered as had happened to previous groups trying to cross.

"We expected the darkness to explode with gun fire at any time, but by 5 a.m. and just before dawn, the last raft-load reached the Thai side of the Mekong River.

"We had made it, but then came the long days and nights of worry about our relatives left behind in Laos," concluded this quiet and diminutive man whose obvious courage and physical stamina were commonplace to all survivors.

Trained extensively in Thailand by both American and Thai military and intelligence in the 1970s, this former H'mong lieutenant who sits before me crossed the Mekong in early June 1980, only a few days before my arrival in the refugee camp.

From a miniature diary that he miraculously managed to bring, he quietly reads:

"On 15 May 1980, two Soviet helicopters dropped yellow powder on a H'mong village of 200 at coordinate TF 9376. Thirty-five died within seven days and the remaining are very sick.

"On 20 May 1980, two Soviet helicopters hit Ban Loun, near the 15 May coordinate target, with yellow powder. This village has approximately 250 H'mong people. Three died immediately, 43 died soon after the attack and 200 are extremely ill."

Caringly turning the tattered pages of his diary to check dates, figures and locations, he chronicled what had happened to him after the American withdrawal from Laos in April, 1975.

"As soon as the Americans backed out of Laos, the Communists began a policy to capture the H'mong people who worked for the Americans. My wife and child were captured 15 July 1975.

"The first time we were attacked by gas was in October, 1975, at Houie Skhat. The Communists tried to take our village by fighting but couldn't, so they re-

turned with four Cessna airplanes—two with rockets and two with chemicals. One plane carried red gas and the other yellow. Those near where the chemical rockets exploded fell unconscious immediately with bleeding from the mouth and nose.

"They hit our area with gas attacks for three days. Seventy-five people died immediately and 500 were very sick and most died within a short time. Soon after death, a yellow water flowed from the bodies. I lost 27 relatives during this three-day attack. I was lucky, for I was not in the village at the time.

"For three years we were constantly attacked like this. We must live in the jungle like animals. There were no animals left in the jungle—only people who have to live like animals. The chemicals kill our crops and if we eat the plants or drink the water where the gas falls, we will have red diarrhea and die.

"Since early 1980, people are so hungry that they eat leaves exposed to the chemicals, and 715 people have died in my area. I dig in the ground for roots and water, but many are too weak to do this. We have no cloth to cover our bodies from mosquitoes, so we all have malaria. We have no medicine, so we are all sick."

Abruptly, he stopped talking and stared at me apparently deciding whether or not he should say aloud the thought that was in his mind.

"Some H'mong who have escaped from the Vietnamese report that the Vietnamese say it is the Americans who drop the chemicals because the Americans don't want to feed the H'mong any more, They say: 'It is the Americans who destroy the H'mong; not us'."

While H'mong survivors of gassing have reported the tragic events in Laos for almost five years, the U.S. and other responsible nations have been slow in responding. In the fall of 1979, the U.S. Army Surgeon General sent a team to Thailand to investigate the gassing allegations. This team, headed by Dr. Charles W. Lewis, interviewed 40 men, two women, and a 12 year-old girl, all of whom were witnesses to, and survivors of gassing attacks in Laos, and concluded in a report that "chemical agents have been used against the H'mong and that reported effects of these agents suggest the use of a nerve agent, a riot control agent, and an unidentified combination or compound."

In the spring of 1980, the U.S. House of Representatives Subcommittee on Asian and Pacific Affairs took testimony of the gassings. The State Department and Department of Defence have made investigations. But these agencies and others in U.S. officialdom wanted a body for autopsy and fresh chemical samples for "conclusive evidence."

But there are serious logistical difficulties in obtaining recently gassed victims and fresh chemicals because the gassing occurs in the remote mountains of Laos, many days' walk through enemy territory to the Thai border.

I asked Vang Neng, H'mong chief at Ban Vinai refugee camp, about the U.S. insistence on having a body for autopsy. In a voice of frustration and anger, he said, "Yes, I have bodies for autopsy, but by the time we carry one body out, it will be spoiled."

Chemical experts explain that after chemicals hit the air their potency is dramatically reduced. According to Dr. Lewis in his report to the Surgeon General, six weeks after a gassing, tests on humans will be useless.

While the U.S. is reluctant to acknowledge the use of lethal chemical agents by the Soviet-backed regimes of Hanoi and the Pathet Lao, the Vietnamese government applauds its army's chemical-warfare branch by awarding it a Ho Chi Minh medal. According to Hanoi radio monitored in Thailand in April, 1980, General Le Trong Tan told the unit: "Chemical weapons contributed to winning the great victory in the great anti-U.S. salvation resistance struggle" and in "tasks in the new situation." The "new situation" undoubtedly refers to Laos, Kampuchea—and possibly to Afghanistan.

The U.S. State Department calls evidence suggesting a Soviet role, "circumstantial," independent intelligence sources have confirmed the presence of Soviet General V. K. Pikolov's chemical warfare forces in Laos—and subsequently in Kabul, Afghanistan. In addition, Soviet chemical warfare experts are said to have visited several towns and areas in Laos to inspect "chemical explosives." It is hard to escape the conclusion that the Soviets are involved, certainly in the production and distribution of chemical agents, and probably in on-site surveilance and experimentation.

In early December, 1970, the General Assembly of the U.N., over Soviet-bloc opposition, adopted a resolution calling for a U.N. investigation into the use of chemical warfare in various parts of the world, which would include Laos. The resolution passed by a vote of 79–17 with 36 abstentions. Among those voting

against the resolution were: Laos, Vietnam, Afghanistan, Soviet Union and Cuba. The U.S., Japan, and nearly all other Western industrialised countries and more than half of the Third World countries voted for the resolution.

Observers of U.N. activities estimate that no action will take place for about a year and even then the U.N. must obtain the sanction of the host government for on-site investigations. With Laos voting against this resolution, experts believe that Laos will delay or reject U.N. requests to enter Laos until such time that identifiable lethal chemical residue is gone.

It's early in the new administration in Washington, D.C.; and on Capitol Hill senators and representatives are still in the process of moving offices and getting new committee assignments. There are, however, rumblings that a bipartisan effort might materialise to re-examine the alleged use of lethal chemical agents by the Soviet Union and their proxies against peoples around the world.

Also, it would seem that the ASEAN countries should be particularly active in investigating the alleged use of chemical warfare in Southeast Asia—their own area.

In the meantime, the H'mong continue to die. A group of H'mong crossed into Thailand in December, 1980, to report to the chief at Ban Vinai tnat 22 people died immediately after a gas attack in September, 1980, in the Vang Vieng area.

Survivors tell of helpless, desperate villagers, trying to protect tneir families, shooting at the gas-delivering aircraft with—crossbows.

A H'mong leader responsible for almost 30,000 civilians in Laos crossed into Thailand in the summer of 1980 to ask for help. His words haunt me: All my people are starving, many have the red diarrhea from the gassing, we all have fever. I've come to see if any country has food, clothes and medicine to protect us from the gassing. We understand that countries send rice and medicine to help the Vietnamese who occupy Kampuchea. Isn't there someone who can help us? Someone must help, soon, or we will all die."

Senator PRESSLER. Our next witness is Mr. James Coyne.

STATEMENT OF JAMES COYNE, AUTHOR OF ARTICLES ON CHEMICAL WARFARE AND INSURGENCY IN AFGHANISTAN, ON BEHALF OF SOLDIER OF FORTUNE MAGAZINE, BOULDER, COLO.

Mr. COYNE. Mr. Chairman and members of the Committee on Foreign Relations, I am grateful to appear here before you. My name is Jim Coyne.

I am a professional journalist and photographer and have been since 1968. Prior to that I was in Vietnam for 18 months. I currently am an associate editor with Soldier of Fortune magazine.

I have come before you today to discuss a topic of grave concern: The use of chemical and/or biological weapons by Communist military forces against the people of Laos, Cambodia, and Afghanistan.

For many years now, reports of the use of these weapons have reached the world, only to fall on incredulous or disbelieving ears.

The CHAIRMAN. Let me say to the people in the room who are moving about or talking, you will have to hold your conversations outside of the hearing room so that the audience may hear the testimony. That applies to everyone.

Mr. Coyne, I'm sorry to interrupt you, but I saw that some people in the back of the room were straining to hear your testimony.

Mr. COYNE. For many years now, reports of the use of these chemical or biological weapons have reached the world, only to fall on incredulous or disbelieving ears. Most often the reports are dismissed for lack of evidence, as circumstantial or hearsay. The elusive evidence, or "smoking gun" as we have heard here today, has been absent.

There are two primary reasons why, until today, this has been true. First, attacks using chemical and/or biological weapons are most often carried out in areas deep within hostile, virtually inaccessible territory, far from inquiring observers. Second is because of the reluctance of the world community to accept or believe that such heinous weapons currently could be in use.

The chilling thought that the age of chemical or biological warfare already has begun is often too difficult to imagine or accept.

We are faced now, however with certain knowledge that what once was considered unthinkable and unacceptable is now commonplace in some areas of the world: The use of chemical and/or biological weapons by Communist forces as a routine and acceptable, for them, part of their military strategy and tactics.

In late April of this year, Soldier of Fortune magazine embarked on an extensive investigative report to determine the present political and military situation in Laos, and the extent of the anti-Communist resistance there. In the process of gathering information for this report, one message became increasingly clear: The Communist Government of Laos, with outside assistance and support, was actively engaged in a campaign of chemical and biological genocide against the Hmong hill tribes which so bravely assisted the United States in the past.

Refugee reports and interviews all too often cited instances of gas attacks made by aircraft against defenseless Hmong villages deep in the interior of Laos. Witnesses recounted terrifying experiences of horrible deaths due to these attacks.

On May 6, 1981, I and two other members of the investigative team flew from Bangkok to Northern Thailand where we visited Ban Vanai refugee camp. During our 2 days of discussions and interviews there, we were provided with a chemical sample of a substance used in air attacks against the Hmong village of Ban Thong Hak, Laos, on April 2, 1981. The individual who provided the sample, Soua Lee Vang, age 29, is a Hmong refugee forced to flee Laos because of deteriorating conditions and attacks there. He had carefully marked on an old Department of Defense escape and evasion map the precise time, date, location, and type of aircraft of four recent chemical attacks in Laos.

The first report cited an attack which took place at 1300 hours, January 8, 1981. A Soviet Mig–17 dropped a "yellow" chemical on a village located at grid coordinates TF 9963. After 24 hours, 25 people developed bloody stools; 30 people developed severe skin blisters and infections. He did not know if the people died later.

A second attack took place at 10 a.m. on March 11, 1981, when a Soviet MI–8 helicopter approached a village located at grid coordinates TF 7973 and dispensed a "brown" chemical cloud. Sixty-one people died from that attack; 100 people developed skin infections and blisters.

The third attack occurred at 1300 hours, March 22, 1981. This time a biplane flew over the village of Ban Paa Ngum, leaving 21 people dead and approximately 500 people with severe abdominal cramps, vomiting blood; 400 more people developed skin diseases and infections.

The fourth attack, the attack from which the sample was collected, took place at 1400 hours, April 2, 1981. A Soviet Mig–17 attacked from the north and dispensed a "brown" cloud over the village of Ban Thong Hak, grid coordinates TF 9177. At the end of 1 week, 24

people died and 47 more people were severely ill. Livestock and chickens also died. The water was contaminated and unusable, and the area abandoned.

Soon after the attack, at great personal risk to himself, Soua Lee Vang wrapped a wet cloth over his nose and mouth, and scraped the chemical residue remaining from the rocks, leaves, and wood with a crude bamboo knife. He stopped when his vision blurred and he became dizzy. His nose began to run uncontrollably. To this day his left arm and hand remain scarred from the effort.

He felt if he took the chemical sample to a refugee camp in Thailand, someone would know what to do, someone would help.

Soua Lee Vang arrived at Ban Vanai refugee camp in Thailand on April 15, 1981. He presented us with the chemical evidence collected in Laos on May 6, 1981. The sample was then hand-carried aboard a transpacific flight departing Thailand May 8, 1981, and arrived in the United States 22 hours later.

There followed, in the United States, a series of exhausting, and often disappointing, tests. The first analyses were provided by private independent laboratories without result. They simply were not prepared for the sophisticated analysis which was required.

Soldier of Fortune magazine decided at that time to turn the remaining chemical sample over to the U.S. Government. The sample was delivered to Washington, D.C., in early July. Karen McKay, of the Committee for a Free Afghanistan, with whom we have worked and who also is on the panel with me today, received the sample and delivered the material to the Honorable Jim Leach, Republican from Iowa, for analysis by the appropriate agencies.

It must be stated here that Congressman Leach was selected to monitor the analysis results because of his longstanding interest and commitment regarding chemical and biological warfare violations, without revealing to him the involvement of Soldier of Fortune magazine. He was only told that the sample had been recently collected in Laos.

Again, the test results proved disappointing at first. Something was there, but no one knew exactly what it was.

The last of the sample then unde went further analysis, including additional tests to determine if toxins, such as the T–2, or trichothecene, found in yellow rain, were present. The tests proved positive; traces were indeed present.

Soldier of Fortune magazine is proud of its reputation for reporting and analysis. But it is not our job to collect intelligence. There are times, however, when we have done so by default.

We at Soldier of Fortune magazine are now convinced, beyond a reasonable doubt, that chemical and/or biological weapons are being used against the people of Laos, the people of Cambodia, and the people of Afghanistan, where other similar attacks are reported to have taken place. The list should not go on.

The consequences of inaction now are as great as they are terrible. The "restraints" of the 1925 Geneva protocols or the 1972 Biological Weapons Convention prohibiting the use of such weapons are meaningless if and when parties choose to disregard them without censure.

In closing, I would like to relay the simple request of Soua Lee Vang, the Hmong farmer, now refugee, who presented us with the

chemical evidence of these attacks: "Show this to the world. Tell them what is happening to my people. Please, tell them to stop."

Thank you very much.

The CHAIRMAN. Thank you.

Our next witness is Ms. Karen McKay. Ms. McKay, you have 8 minutes to use in whatever way you wish.

STATEMENT OF KAREN McKAY, EXECUTIVE DIRECTOR, COMMITTEE FOR A FREE AFGHANISTAN, WASHINGTON, D.C.

Ms. MCKAY. Thank you, Mr. Chairman and staff members of this committee. I am grateful for this opportunity to speak on this issue.

I am an Army Reserve officer. I am the director of the Committee for a Free Afghanistan. As an Army officer, I have been schooled in unconventional and psychological warfare, and I am a foreign area operations officer.

I have been a military correspondent for 9 years in the Middle East.

Forty years ago, as we have said before here, the world knew full well that the Holocaust was underway. And yet, rational men chose to deny what could not be denied. They said that there was no proof, no real scientific proof that millions of human beings were being murdered in a scientific and calculated way in gas chambers in Europe. It simply was something no rational person could believe.

Today, as we have discussed, there is another horror too terrible to believe, being committed in Asia—in Afghanistan, Laos, and Cambodia—and that has been committed in Yemen in the past.

Again, human beings are being murdered in cold blood, this time with poisonous gas, delivered not by Zyklon-B tablets, but by aircraft and by artillery shells and even ordinary bullets.

We have heard today the extensive, undeniable documentation of this fact, that the most ghastly weapon ever devised is being used on human beings in a routine manner. It is being done without so much as a whimper of dismay from the civilized world.

Both of these crimes—the Nazi Holocaust and the gas warfare in Asia today—were and are allowed to occur because rational men refuse to allow the scales to fall from their eyes and to see, because decent men refuse to know what they will not, and because comfortable people refuse to have their status quo disturbed.

We had here, our committee, a severely wounded freedom fighter, for several months. He had survived two lethal chemical attacks before being hit by exploding bullets from an MI–24 helicopter that shattered his legs.

We presented him to the press. He described the gas attacks, the blue-black cloud that killed most of his people. He described their death agony. Within minutes their skin turned black, as though burned. Their bellies swelled and burst open, and their guts spilled on the ground.

And yet, the press and the public tended to greet him with skepticism, yawns, and even derision.

"What," the skeptics sneer, "do illiterate savages know about chemical warfare?"

I submit that an illiterate tribesman who never could have studied chemical weapons in a military school, and who precisely decribes chemical agents that fit known patterns, is the best possible witness.

Repeated reports have come to us from totally unrelated sources in Afghanistan describing the same agents and the same symptoms in the victims.

A year ago, we thought the Soviets were using only four definite agents in Afghanistan. Now we know that they are using a wide variety of agents, both chemical and biological. Some are known as incapacitants. Some of these agents simply render the victim unconscious, after a brief period of extreme pain, with no aftereffects. Other incapacitants cause severe nausea and severe aftereffects that last for days or weeks.

What incapacitants do is to allow the Soviets to play God—they render the victim helpless for capture or slaughter. Think of such a weapon employed in Europe, or perhaps even here.

The rest of the agents they use are lethal. The blue-black cloud is commonly described as being filled with flame. The hideous effects of yellow rain you have heard about now. Other agents produce green, gray, white, or blue clouds. Some are colorless. Some have a distinctive odor, not always noxious. The schoolgirls of Kabul who survived the gas attacks in their classrooms when they domonstrated against the Soviets reported that the gas which killed so many of their friends smelled sweet, like apples.

There are many ways of delivering these agents. The most common seems to be by aircraft. But there are also reports of major chemical attacks by artillery.

Even individual ammunition, as Jim Coyne has discovered, grenades and bullets, deliver toxic agents. The Afghans report that the Soviets are using a new munition, a slender bullet that need only nick the victim, and he will soon die.

In certain cases, freedom fighters have been able to neutralize a chemical agent by jumping into a nearby body of water. But where their arms held their weapons dry out of the water, lesions developed and ate the flesh away to expose the bone in their arms.

In one mountainous area, Soviet troops fired gas cannisters at an impregnable freedom fighter position. Coming upon the bodies of the mujaheddin later, people tried to remove them, but the flesh came away from the bones in their hands.

Last July, in the first hearings to be held by Congress on the Soviet invasion of Afghanistan, 19 months after the fact, an Afghan Freedom Fighter testified before two subcommittees of the House Foreign Affairs Committee. An old man, he had walked 19 hours a day for 3 weeks to get out of Afghanistan and come here to tell his story to the American people.

Malik Wardak spoke of the yellow rain, of the blue-black clouds of flame, of exploding bullets and toxic bullets. He also described a gelatinous strip which ignited and clung to the flesh and could not be extinguished. He said the strips remained active, even after lying for months under the snow. These gelatinous strips, we believe, are firesticks, foot-long spaghettilike strips of some sort of phosphorous material. They are dumped from aircraft in oil drum-sized containers, explode above the ground, scattering their firesticks over a wide area and incinerating everything in the path.

Soldier of Fortune magazine did a special article on that some months ago.

At the same hearing, a schoolgirl named Nahid, who was a leader of a demonstration against the Soviets, described the canisters of lethal

gas tossed into their classrooms. She and a few others escaped by smashing the windows and leaping out.

Last March, my committee brought one of the major leaders of the freedom fighters here to Washington. Sayed Ahmad Gailani and his field commander Aryubi described in public, before the press, the extensive use of poison gas on his people. In special hearings before the House Armed Services Committee, Mr. Gailani even produced three autopsy reports by French doctors confirming that the deaths of these individuals were caused by poison gas.

We also have had here other leaders, such as Sebqattullah Mojaddedi and Izzattullah Mojaddedi, who also have described the routine and extensive use of poison gas and other chemical agents against their people.

Just 2 weeks ago, Izzattullah Mojaddedi was here in the Senate and described a powder which is distributed from an aircraft. An incendiary device is fired into it, and everything is consumed in a flash of flame that goes up into the sky.

Recently our colleague, the distinguished Dr. Bashir Zikria, who is with me today, went to the refugee camps in Pakistan to minister to the sick and wounded. He came upon a number of people who had been hit with gas inside Afghanistan. A few of the survivors managed to make it to the refugee camps in Quetta. Dr. Zikria filmed them. I have the film here, but unfortunately there is a problem with the equipment and we cannot show it. On this film, there is a picture of a man who had been as healthy as a bull, a strong and virile man, who was hit by gas. His name is Abdul Gaffar.

I have given to each member an official medical report of what happened to Abdul when he was hit with this gas. He is now a shriveled and shrunken old man who is dying. He will not live long.

In the face of the overwhelming evidence of Soviet use of chemical and biological weapons, we have to ask if the world will permit another Holocaust to go unchecked and unchallenged. Will we allow this bestiality to continue—the use of human beings as guinea pigs for the development of heinous superweapons, the routine annihilation of those who would be free, who would resist the Soviet juggernaut?

Will we not recognize, if we have no pity for these Third World victims of Soviet crimes, that this has personal relevance for us? Do we believe that the Soviets would use such weapons only against helpless Third World peoples?

The Soviets have no scruples. They are totally devoid of the civilized constraints under which we operate. Would a nation that killed 20 million of its own people to enforce the Communist system hesitate to use poison gas on NATO troops, on a European population, on an American population? For them, it is irrelevant whether they kill with bullets or gas. They seek the most efficient means to accomplish their objective, and their objective is not just blowing us to smithereens with nukes.

We must recognize that chemical, biological, and radiological weapons are part of Soviet basic tactical doctrine. We must stop trying to pretend that it is not so.

[Ms. McKay's prepared statement follows:]

PREPARED STATEMENT OF KAREN MCKAY

Forty years ago the world knew that the Holocaust was underway. Countless reports, mountains of irrefutable evidence, eyewitness reports, maps, documents and even photographs from inside Auschwitz told of a story too terrible to be believed . . . and it was not. Despite the stark evidence that could not be denied, rational men denied it, saying there was no real proof, no scientific proof that millions of human beings were being slaughtered, liquidated in a cold and deliberate and efficient manner. It was something that no rational person could believe.

Today another horror too terrible to believe is being committed—again the product of high technology. Human beings in Laos, Cambodia and Afgnanistan are being murdered in cold blood with poisonous gas. Extensive documentation and evidence point to the undeniable fact that the Soviet Union has been and is experimenting with and routinely employing the most ghastly weapon ever devised on human beings—freedom fighters and innocent noncombatants alike—and doing so without so much as a whimper of dismay from the civilized world.

Both of these heinous crimes—the Holocaust and Soviet chemical/biological warfare against helpless people—were and are allowed to occur because rational men refuse to allow the scales to fall from their eyes and see, because decent men refuse to know what they will not, because comfortable people do not wish to disturb their status quo.

We had here, for several months, a severely wounded Afghan freedom fighter who was being treated at Johns Hopkins Hospital. He had survived two lethal chemical attacks before being hit with exploding bullets from an MI-24 helicopter gunship. Our Committee presented him to the press. He described the gas attacks, the blue-black cloud that killed his people, including four of his nephews. He described their death agony. Within minutes their skin turned black, and their bellies swelled and burst open, spilling their guts on the ground. He was greeted with skepticism by his listeners, with yawns and even derision.

"What," the skeptics sneer, "do illiterate savages know about chemical warfare?"

I submit that an illiterate tribesman who could never have studied chemical weapons in a military school and who precisely describes chemical agents that fit known patterns is the best possible witness. Repeated reports have come to us from totally unrelated sources describing the same agents and the same symptoms in the victims.

A year ago we knew the Soviets were using four definite agents in Afghanistan, all chemical we thought. Now we know that they are using a wide variety of agents, both chemical and biological.

Some are known as incapacitants. Some of these agents simply render the victim unconscious—after a brief period of extreme pain—with no aftereffects. Other incapacitants cause severe nausea, vomiting and diarrhea and severe aftereffects that last for days or weeks. What the incapacitants do is to allow the Soviets to play God—they render the victim helpless for capture or slaughter. Think of such a weapon employed in Europe, or here in our own cities.

The rest of the agents are lethal. The blue-black cloud is often described as being filled with flame. The hideous effects of yellow rain you have heard about. Other agents produce green, gray, white or blue clouds. Some are colorless. Most have a distinctive odor, not always noxious. The schoolgirls of Kabul who survived the gas attacks in their classrooms when they demonstrated against the Soviets reported that the gas that killed so many of their friends smelled sweet, like apples.

There are many ways of delivering the agent. Most common seems to be by helicopter or plane, but also by artillery barrage. Even individual ammunition—grenades and bullets—deliver toxic agents. The Afghans report that the Soviets are using a new munition, a slender bullet that need only nick the victim and he will soon die.

In certain cases, freedom fighters have been able to neutralize a chemical agent by jumping into a nearby body of water—but where their arms held their weapons dry out of the water, lesions developed and ate the flesh away to expose the bone.

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Last March, my Committee brought one of the major leaders of the freedom fighters to Washington. Sayed Ahmad Gailani and his field commander Aryubi described in public, before the press, the extensive use of poison gas on his people. In special informal hearings before the House Armed Services Committee, Mr. Gailan even produced three autopsy reports by French doctors confirming that the deaths were caused by poison gas.

A month ago we brought another major leader of the resistance, Professor Seqattullah Mojaddedi, to Washington. He, too, spoke of the routine use of poison gas by the Soviets against his freedom fighters and innocent villagers as well.

Last week another major figure in the resistance, Izzattullah Mojaddedi, also spoke here in Washington about chemical weapons. He described a powder that is sprayed by helicopter. As the powder settles to the ground an incindiary round is fired into it and a flash of flame from the earth to the sky consumes all which is caught beneath it.

Recently our colleague, the distinguished Doctor Bashir Zikria, went to the refugee camps in Pakistan to minister to the sick and wounded. He came upon a number of people who had been hit with gas inside Afghanistan. These few survivors managed to make it to the refugee camps in Quetta, right on the border. Dr. Zikria treated them and then filmed their story on video tape. With your permission I wish to present this short video tape which Dr. Zikria has made available to us.

FILM

In the face of the overwhelming evidence of Soviet use of chemical and biological weapons, we have to ask if the world will permit another Holocaust to go unchallenged and unchecked. Will we allow this bestiality to continue—the use of human beings as guinea pigs for the development of heinous superweapons, the routine annihilation of those who would be free, who resist the juggernaut of Soviet imperialism?

Will we not recognize—if we have no pity for these Third World victims of Soviet crimes—that this has personal relevance to us? Do we really believe that the Soviets would use such weapons only on helpless illiterates?

The Soviets have no scruples. They are totally devoid of the civilized constraints that we operate under. Would a nation that killed 20 million of its own people to enforce the Communist system hesitate to use poison gas on NATO troops, on a European civilian population, on our own population here in America if it suited their objective? For them it is irrelevant whether they kill with bullets or with gas. They seek the most efficient means to accomplish their objective.

We must recognize that chemical, biological and radiological weapons are part of Soviet basic tactical doctrine. We must stop trying to pretend it isn't so.

B. A. Zikria, M.D.,
Columbia-Presbyterian Medical Center,
New York, N.Y.

Corroborated History of Witnesses at Adaghar Bombings

On 9/29/81 a group of Mujahideen (freedom fighters) from Popelzai tribe of district of Arghistan in the provinces of Kandahar were interviewed at Saranan refugee camp in Beluchistan, Pakistan regarding the use of poison-gas by the Soviets in Afghanistan.

These freedom fighters camped at Adagher (Mount Ada) and their camp was bombarded by Soviet jets 7 to 10 in number on the 5th day of Ramadan (July 7, 1981). Each freedom fighter was hiding separately in caves or hideouts. The explosions following bombings produced some black and yellow smoke. No wounds

were inflicted by the explosions. However, the following five freedom fighters had the following symptoms and signs:

(1) Abdul Ghani, age 18; had tearing of the eyes and bleeding from the nose for 1 day only.

(2) Mohammad Ibrahim, age 19; had tearing of the eyes the day of the bombing and bleeding from the nose on and off for subsequent 5–6 days.

(3) Noor Mohammad, age 22; 20 minutes after bombing, where one of the explosions took place within 10 meters of his cave, he walked out of his cave and then passed out; unconscious for about 2 hours.

(4) Agha Mohammad, age 25; had tearing of the eyes.

(5) Ghulom Mohammed, age 35; had tearing of the eyes.

After the above symptoms and signs, this group came down from the mountain and got better subsequently.

My questions elicited no positive answers regarding long term or permanent effect of poisonous gas bombings, other than complaints of frequent headaches and "colds", upper respiratory infections since their exposure. None of these individuals underwent physical examinations but all appeared healthy.

When asked if any of the group is still sick from the bombings, they referred me to Abdul Ghaffar at the Sorkhab refugee camp. Ghulam Mohammad who was his close friend accompanied us to Sorkhab refugee camp approximately 30 kilometers away, and took us to the tent and adobie house of Abdul Ghaffar. He said that before the bombings Abdul Ghaffar appeared as well as himself. Ghulam Mohammad appeared as an average height and weight, a healthy person.

THE HISTORY AND PHYSICAL EXAMINATION OF ABDUL GHAFFAR—A POISONOUS GAS BOMBING VICTIM

Abdul Ghaffar, of Popelzai tribe, district of Arghistan in the Province of Kandahar was interviewed and examined on 9/29 and 9/30/81, at Sorkhab refugee camp, Baluchistan, Pakistan.

HISTORY

This 60-year-old male had been in excellent health in the past until present history. The present history started when he was with a group of Mujahideen of the same tribe on the mountain of Ada (Adaghar). On the 5th day of Ramadan, while fasting, corresponding to July 7, 1981, seven to ten Soviet jets bombarded their guerrilla camp. He saw bombs exploding and creating two kinds of smoke, one black and one "exactly like yellow soap." He had tearing of his eyes and bleeding from the nose subsequent to the explosions. While the others went down the mountain after this episode of bombardment, he stayed safeguarding his ammunition and guns in a hideout. The following two consecutive days there were similar bombardments. In addition to earlier symptoms, he also had swelling of his face, hands, feet, and abdomen with accompanying pruritis (itching) about 4 to 5 hours after the bombardment. He also had nausea, vomiting and diarrhea 20 times in the next 24 hours through the third day of bombardment. On the 4th day, he was very weak and was carried down to a dispensary. He recovered from above symptoms within a couple of weeks, however, he has continued to have loss of hair, tremor of upper and lower extremities, weakness, anorexia (loss of appetite), weight loss, mid-abdominal pain, frequency and fainting spells. His face feels numb. The rest of the review of systems were not very remarkable.

P.E. B.P. 130/80, P–100, R–20, Wt—?

This is a chronically ill appearing man with evidence of severe weight loss with large over-hanging skin folds of arms and thighs. Head—moderately balding hairline. Full beard with irregular areas of loss of hair.

Eyes—pupils are round regular and sensitive to light and accommodation; fundi were not examined; ears—unremarkable; nose—unremarkable; throat—unremarkable; skin—moderately dehydrated and tanned; mucous membranes—pink; neck—unremarkable; chest—clear to percussion, and auscultation; cor—normal sinus rhythm, no murmurs. A2=P2.

Abdomen—scaphoid; liver and spleen are not palpable, no masses; extremities—generalized muscular atrophy with continuous tremors of hands and feet; rectal and genitalia—exam deferred; neurological—deep tendon relaxed hyper-reflexic and symmetrical. Pinprick test showed complete anesthesia of skin of head, face, neck, hands, arms, feet and legs. There was normal pin-prick sensation of abdomen and trunk.

Impression: (1) Asthenia (severe weight loss) associated with anorexia; (2) involuntary tremor of extremities; (3) total skin anesthesia of body exposure areas; (4) probable systemic and neural toxic effects (1, 2, 3) associated with 3 consecutive exposures to toxic fumes of bombings.

Disposition: (1) Victim requires major nutritional support-parenteral and or enteral in order that he may survive; (2) victim may have other system involvements such as urinary tract for which he requires complete and an extensive work-up.

The above history and physical findings have been documented on the spot by tapes and 8 mm super-8 sound films.

The CHAIRMAN. Thank you very much, Ms. McKay.

Ms. Hamilton-Merritt, have you been able to get the machine working?

Ms. HAMILTON-MERRITT. I believe so. May I try again?

The CHAIRMAN. Fine. You will have between 3 and 5 minutes for the slide presentation.

Ms. HAMILTON-MERRITT. Thank you.

[A slide presentation was shown.]

Ms. HAMILTON-MERRITT. What I would like to show you in these photographs would be a few slides. As my friend said today, we often think about minorities being primitive peoples on whom we cannot count. These are a few photographs of the Hmong people under traditional conditions, which show a very sophisticated people with a 4,000-year history. They are highly sophisticated in terms of their own social structure, excellent farmers, men of the mountains who observe very, very adequately, who love their children deeply. They are a quite beautiful people and are wonderful with textile arts. Since they are seminomadic people, they carry their arts on their backs—in their elaborate clothing. They are great makers of silver jewelry.

Now we find this. This story begins in 1975, with people chased from their homes, spending months and months of treking trying to reach Thailand. Many do not survive the journey. They are put into conditions such as these [indicating], many are sick, starving, bodies wracked with disease. Many are suffering from the effects of chemical-biological warfare. This is the hospital at Ban Vinai camp. Many of these people had just crossed the Mekong River. The hospital had two and three patients on a bed, two and three on the floor beside each bed. All the aisles were filled. This was the outside of the hospital. The people are sick with diseases the doctors did not know about. Young and old alike were affected.

When we hear testimony about bleeding, being unable to eat, being unable to see, this is what often happens if you might survive, but you end up like this [indicating]. I have seen skeletons carrying skeletons out of Laos. These are survivors, but perhaps only for a moment.

Babies who are conceived in mothers who are exposed to toxins, whether from the water or from the air, are often born, such as these [indicating]. They have a very difficult time even of being born, and when they are born their chances of survival are very limited.

These are people who have asked, since 1975, and who have begged me to tell their story to the world so that the gassing would stop.

Apparently after exposure to some agents it is impossible to eat anymore causing an extreme anorexic-type condition.

Those are a few of the photographs that I have taken over the years depicting what has happened to one people in Laos, the Hmong people, who have presented such extraordinary evidence themselves. As I mentioned earlier, they were trained by the United States to observe, and they did so accurately. It seems to me that we must stand firm and tall and take a position to try to get this use of biological chemical warfare stopped in Laos.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much.

ASIAN HOLOCAUST

I think the testimony has indicated, to my mind at least, that there may well be and probably is occurring a holocaust in Asia that is as deadly as anything in history. The statements we have heard must be analyzed carefully.

There are some questions that I wish to ask this panel.

Has it been difficult for you to collect evidence and information in Southeast Asia? Have you received grants from interested foundations or other groups to carry out your research? How have you financed your research?

Ms. HAMILTON-MERRITT. May I begin?

I finance myself. I am a freelance journalist. I finance myself by having about three jobs at any given time. I am totally on my own so that I can follow what my intuitive sense says should be followed. I have completely done this research on my own.

I found it difficult to do research when it came to an official capacity. Since I have lived with the Hmong people and they knew and trusted me as someone who was competent I had no trouble gathering first-hand evidence from Hmong escapees from Laos.

Ms. MCKAY. Our committee is financed entirely by private contributions. We are, therefore, perpetually broke and are staggering from one week to another, always in danger of financial collapse.

Ours are entirely private contributions, anywhere from a nickel to a thousand dollars. These have kept us going.

Mr. COYNE. For Soldier of Fortune magazine, the magazine obviously picked up the cost. It was a very expensive investigative report, stretching over a period of 5 months. The evidence itself, the chemical sample itself, is very difficult to obtain. We were quite surprised when we did obtain it. As far as we knew at that time, there had been no chemical samples or evidence from Laos.

The interviews themselves are quite numerous. If you spend the time to go to Ban Vanai or any of the refugee centers, the people who have witnessed or been victims of these attacks are quite numerous.

Mr. SEAGRAVE. My own investigation, for the first 2½ years, was underwritten by out-of-pocket savings. While I was working for Time-Life books, I did the research in my spare time. In the past year and a half, I have resigned from Time-Life to devote full attention to writing books and to concentrate on this one on yellow rain.

The CHAIRMAN. So, none of you has been paid or expects to be paid by the U.S. Government for your work in this area, or for giving

lectures or seminars? Your research has been independent of Government; is that right?

Ms. McKay. Totally independent.

Ms. Hamilton-Merritt. Independent, but published. Certainly published; yes.

Mr. Seagrave. Independent.

Mr. Coyne. Yes; independent.

RECOMMENDATIONS

The Chairman. What do you recommend the United States do abour this?

Mr. Seagrave. I would recommend several courses of action. I think hindsight is called for in this case so that obviously we should continue our research into what has happened with these poisons over the last 15 years, perhaps going back as far as the Yemen civil war. However, I do not believe that this hindsight should be totally at the expense of looking forward. I think the possibility exists here, not only for regional wars with poison gas, as are currently underway, but there is also a very serious danger of terrorism, using poisons as opposed to bullets or high explosives. I would not be surprised if the interests on the part of terrorists were to accelerate now and we were to find ourselves confronted with things like Jonestown happening at J.F.K. Airport.

Mr. Coyne. In my own personal opinion, I believe the U.S. Government ought to throw the full weight of its expertise and experience behind this in such a way as to prove to the world community that such attacks indeed are taking place, the fact that chemical and biological warfare now is an acceptable part of military strategy and tactics of the Soviet Union and its client states. I think this is a very real threat to not only the rest of the world but to this Nation as well.

Ms. McKay. I believe this administration is on the right path in publicizing this issue. It has gone after it with everything it has. I think we need to seize every possible public forum to point the finger of "j'accuse" at those who would use chemicals on innocent people, especially those who are using them as a huge research and development laboratory for weapons technology and tactics. Along those lines, I think our military establishment ought to start thinking about defensive developments to handle this Soviet tactic.

Ms. Hamilton-Merritt. I, too, was encouraged by the statement Mr. Burt made earlier. Since I have been with this subject for 5 years, it is most encouraging news.

However, there is the element of what do we do about the survivors. Since I am very close to the Hmong community in this country, there is a large number of people who have been exposed to toxins and who claim that they are ill now because of that. It seems to me that Congress must look into this through hearings and by thinking about and investigating what we can do for those who have been poisoned by these various chemicals, some of which we probably have not yet identified: We must consider the long-term medical effects and the genetic consequences.

We also should take a look at our domestic problem vis-a-vis chemical-biological warfare and those who have survived and who live here now among us.

The CHAIRMAN. I certainly hope this hearing will stir a response, although from the attendance one might conclude that this is not the most Earth-shaking event. But from what I have heard, certainly it is one of the most frightening holocausts that is going on.

I do have additional questions which the staff can submit to the different members of the panel. I am sorry that the videotape did not work. I understand that we had the wrong sized tape for this particular equipment. But we thank you for bringing it in any case.

I believe we have heard all of the witnesses at this point. You have all served a public purpose today by bringing this matter to the forefront. I very much respect those who disagree. But I might say, having served in the Army in Vietnam and having followed matters closely, I am convinced that there is a major holocaust underway which the world is ignoring. That is my personal point of view.

I have submitted statements from my colleagues, who also would like to see more evidence. I am surprised that our intelligence services do not have more concrete evidence than we have thus far received. But it appears that there is so much evidence that the conclusion cannot be escaped that a major new type of weapon is being used. That is the conclusion that I have reached, although I certainly am listening closely to those people who came forward today with questions about the scientific evidence.

I also think we should be much more concerned about this across our country, in our Government, and in the Senate. I believe this is one of the foremost issues of our time.

Having said that, I thank you all very much again and will bring this hearing to a close.

This subcommittee is adjourned.

[Whereupon, at 4:30, the subcommittee adjourned, subject to call of the Chair.]

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